The Journal

OF THE

Jamaica Agricultural Society.

The more people do the more they can do; he who does nothing renders himself incapable of doing anything; while we are executing one work we are preparing ourselves for undertaking another.

VOL. XVII. JULY, 1913. No. 7.

BOARD OF MANAGEMENT.

The usual monthly meeting of the Board of Management of the Jamaica Agricultural Society was held at the office of the Society, 11 North Parade, Kingston, on Thursday the 19th June, 1913, at 11.40 a.m. Present:—Hon. Geo. McGrath, Messrs. Robt. Craig, A. W. Douet, A. C. L. Martin, E. W. Muirhead, Conrad Watson and the Secretary, John Barclay.

Mr. Craig was voted to the Chair in the absence of the President and Vice-Presidents.

His Excellency the Governor wrote regretting that owing to the meeting of the Legislative Council he was unable to be present at the meeting of the Board. Other members of the Board were also engaged at the Council. The Secretary said, Mr. Ronaldson had intimated that he would be absent from the Island for a time.

Minutes :—

The Minutes of the previous meeting having been printed and circulated were taken as read. Mr. Watson said, in connection with the matter of cotton, that he thought what he had said should have been recorded, but he would like it to be taken note of that he had asked the Secretary the question if there were not different varieties of cotton growing together in the cotton fields of Lower Vere when he visited them, and the Secretary had answered yes. It was agreed that this should be recorded in the present minutes. The minutes were then confirmed.

Motions :—

The Rev. W. T. Graham wrote regretting that he could not be present at the meeting and asked that his motion *re* Neglected Juveniles be held over until the next meeting when he hoped to be present.

Mr. Watson asked whether it would be in order to give notice of a motion at the present meeting, and also have the motion discussed, and if the meeting was in favour of it, to have it passed.

The Chairman put this to the meeting and it was agreed that Mr. Watson's motion should be discussed at the present meeting. Mr. Watson thereupon moved :—

"That this Board recommends that the cotton plant be declared by the Governor a plant under the Diseases of Plants Law 1911, and that the disease Leaf Blister Mite (Eriopyhes gossypii) be declared an infective disease within the meaning of the said Law."

Mr. E. W. Muirhead seconded. Mr. Watson in support of his motion said that the Governor had remarked to this Board, that he would like to see cotton as a whole brought under the Infectious Diseases of Plants Law, so that the old plants could be cut down to prevent them from ratooning. In the meantime however, Leaf Blister Mite was quite common among cotton plants in Vere and because they had got nice rains these ratoon cotton plants were springing vigorously from the old roots, and the owners would not like to cut them down of their own option as they looked so well. If Leaf Blister Mite could immediately be brought under the Infectious Diseases of Plants Law, the Instructor who was an Inspector of Plants Diseases could on his rounds recommend the people to cut down their old trees when affected. The motion was unanimously agreed to and the Secretary was instructed to forward it at once to the Colonial Secretary.

Report of Special Committee :—

The Report of the Special Committee on the conditions in S. Manchester and S. St. Elizabeth was again submitted, but owing to the small meeting was again held over.

The Secretary said that he had prepared a Memorandum offering premiums for the encouragement of certain industries in these districts which were mentioned in the Report annexed : if the recommendations in the Report were not gone on with as could hardly be done this year now, it would be a pity to let this year pass without trying experiments with cotton at least.

Mr. Watson said that it was time they stopped talking only about cotton, and started planting it in the districts concerned, to prove whether it would be a paying crop for the districts, otherwise they would lose another year.

The Secretary then read his Memorandum :

1. Premiums for Cotton cultivation by small settlers in Southern St. Elizabeth and Southern Manchester. A premium of 10/- will be given to twenty cultivators who plant, care, bring to bearing one chain of Sea Island cotton according to the direction and satisfaction of the Agricultural Instructor, and deliver the product to the Agricultural Society who will pay 3d. per lb. weight for the seed cotton on the spot, on condition that the cotton is clean. It is a condition that the plot must be mulched. Seed will be supplied free.

2. Five premiums of £5 each for an acre of cotton grown in districts to be selected.

3. Five separate acre plots to be cultivated by the Agricultural Instructor. Grant £25.

After discussion it was decided to adopt only Suggestion No. 3 but to make the Experiment 10 plots instead of 5, and to make the grant £60 leaving a margin of £10 for expenses in supervision, etc. It was

agreed also that Mr. Watson be asked to go down and supervise the experiments. Mr. Watson agreed. The Secretary was instructed to make the necessary arrangements at once.

The Secretary said he had also prepared a scheme for premiums to encourage tobacco and coffee cultivation and the planting of hemp for fences. It was decided however that the funds would not enable the Society to do more than carry through the cotton experiment.

Grant for Toronto Exhibition:—

The following letter from the C.S.O. was submitted:

No. [illegible] 24th May, 1913.

"I am directed by the Governor to acknowledge the receipt of your letter No. 1075 dated the 16th instant transmitting a copy of a Resolution passed at a meeting of the Jamaica Agricultural Society held on the 15th instant with reference to the representation of Jamaica at the Toronto Exhibition to be held this year.

2. I am to inform you in reply and in confirmation of the telephone message sent to you on the 20th instant that the Governor will lay before the Legislative Council at its next meeting, a proposal to vote a sum not exceeding £200, for the purpose, and in the meantime will be prepared to advance such sums as may be necessary to enable the Permanent Exhibitions Committees to collect exhibits and adopt any other necessary measures."

(Sgd.) ROBT. JOHNSTONE,
Asst. Colonial Secretary.

The Secretary said that since that letter was received he had also received a letter as Secretary of the Permanent Exhibitions Committee stating that the grant of £200 had been passed by the Legislative Council. He also stated that on the application of the Permanent Exhibitions Committee for the services of Mr. William Cradwick to be the representative of Jamaica at the Toronto Exhibition, the Instructors Committee had granted Mr. Cradwick two months leave of absence for the purpose, from the 1st of August to the 30th of September. This was approved.

"Authorized Persons:"-

The Secretary submitted the following letters:

Letter from the C.S.O.

No. [illegible] 15th May, 1913.

In continuation of the letter from this Office Nos. 4526/ 4728 dated the 14th ultimo, I am directed by the Governor to inform you that the payment of expenses to "Authorised Persons" for attending Court as Witnesses and for performing actual duties is already provided for by Rules approved by the Governor, a copy of which was sent to you in my letter No. 8432/ 10108 of the 22nd August, 1910. A copy of these Rules is supplied to each man on his appointment.

2. On the recommendation of the Inspector General tbe Governor has however approved of copies of these Rules being distributed amongst the several Branch Agricultural Societies and the Inspector General has accordingly been authorized to do so through you after communicating with you as to the number of copies which will be required for tbe purpose. The Mavis Bank Agricultural Society will then see that a Witness, i.e. an Authorized Person whether a prosecution is taken or not, is able to be paid his expenses.

3. With regard to paragraph 3 of your letter, I am to say that on the recommendation of the Inspector General the Clerks of the Courts have been instructed to ask the Magistrate to certify witnesses claims for expenses in cases brought before them, but not sent for trial, with a view to helping the Clerk in arriving at a just assessment of the claims.

4. As regards the suggestion that "Authorized Persons" should be placed under the control of the Inspector General of Police, I am to say that the Officer points out that the fundamental principle which governed the creation of "Authorized Persons" was the granting to them of the power of legally detain-

ing for further enquiry persons illegally in possession of or suspected to be illegally in the possession of Agricultural Produce, but in all other respects such "*Authorized Persons" were supposed to be free from official trammels or subjection* ; in other words it was intended to organize a sort of Mutual Agricultural Protection Society with certain legal powers under the aegis of the Agricultural Society.

5. The Inspector General also expresses the fear that any effort to convert such a large body of Amateurs into a semi-disciplinaried body would end in failure, especially as so much would have to depend on the consent of the individual members to become subject to authority, and he also states that apart from this the present composition of the Constabulary would not admit of its Officers and Sub-Officers assuming such increased work and responsibility as the controlling—however little—of the Authorized Persons would necessarily entail.

6. The Governor, I am to say, concurs in the views expressed by the Inspector General and does not see his way therefore to adopt the suggestion."

(Sgd.) ROBT. JOHNSTONE,
Asst. Colonial Secretary.

Letter from the Inspector General.
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No. C.O. 712/13. 2nd June, 1913.

"In accordance with the 2nd paragraph of C.S.O. letter No. 6091/ 4728 of the 15th ultimo, addressed to you, I send you herewith, at your request, 160 copies of "Rules for the payment of Authorized Persons, &c." for distribution."

(Sgd.) A. E. KERSHAW,
Lt. Colonel.
Inspector General of Police.

The Secretary said he had written to the Branch Societies and to the Agricultural Instructors and he had sent them all full particulars of the Law on the subject, and he had asked each Branch Society to have the matter discussed at their next Branch meeting, and suggested they should ask their "Authorized Persons" to attend all, so that everyone concerned would understand the Law properly, and know what could be done under it, and what could not be done.

Mr. McGrath said that in spite of the "Authorized Persons," prædial larceny was largely on the increase. He still held as he had always held, that they were not properly instructed in their duties, and there were men who did not know their duties at all. He was glad to see that steps were being taken to make them understand their duties. He had never heard of so much prædial larceny as there was now, and he could not think that the "Authorized Persons" were very effective.

Mr. Martin said that there were other causes for the great prevalence of prædial larceny at the present time: there was loss of crops through last year's drought, men going off the country and leaving their families, and so on. He thought the "Authorized Persons" were a great check on prædial larceny.

The Chairman said they were branching off from the subject in hand ; he did not desire that there should be a discussion on prædial larceny.

The Secretary read letter from the St. John's Branch with regard to a resolution from the Spaldings Branch, which had been sent around to the various Branches, relative to a suggestion that the police should not retain all the stolen produce if these were perishable articles in any case of prosecution for Prædial Larceny, but should only keep so much to enable the produce to be identified.

The letter was as follows :—

"That this Society although in sympathy with the Spaldings Branch, cannot adopt the Resolution as it stands, because in cases in which prædial larceny is alleged, experience proves that the prosecutors are not always the owners, and in such cases the wrong persons might obtain the articles.

"That this Society respectfully suggest that the Parent Society do approach the Government in order that the Law might be so amended that in cases of alleged prædial larceny, the police authorities be authorized to dispose of nearly all the perishable articles ; only leaving what is absolutely necessary to ensure a conviction ; and that the proceeds of the sales of such articles be kept in the custody of the police until after the decision of the Court when the right owner will receive the said proceeds of such sales."

After discussion it was thought that the Society should not interfere with this matter.

Handcuffs for "Authorized Persons" :—

The following letter from the C.S.O. was submitted :—

No. [illegible] 27th May, 1913.

"I am directed by the Governor to acknowledge the receipt of your letter No. 566 dated the 24th ultimo, in which you make enquiries as to whether the handcuffs for Authorized Persons will be supplied in the current financial year, and to inform you in reply that the Inspector General reports that the handcuffs are now in store and will shortly be issued."

(Sgd.) ROBT. JOHNSTONE,
Asst. Colonial Secretary.

Mr. McGrath predicted that there would be an action against the Government some day if these handcuffs were distributed among the "Authorized Persons."

The Chairman said that as a Magistrate he had always been against prisoners being brought to him handcuffed.

The Secretary reminded the Board that this was a recommendation made to the Government by the Board on the representation of the Branch Societies that the "Authorized Persons" were sometimes violently resisted when making an arrest.

After discussion it was thought that the handcuffs should not be sent out indiscriminately to all the "Authorized Persons" but only to such as had shown themselves active in their work.

Irrigation :—

The following letter from the Acting Director of Public Works was submitted :—

No. [illegible] 2nd June, 1913.

"The Superintendent of the Rio Cobre Irrigation Works has referred to me your letter to him dated the 17th ultimo, submitting a copy of a Resolution passed by the Spanish Town Branch of the Society, suggesting that the minimum quantity of water to be supplied for the purposes of Irrigation should be one cubic yard per hour, instead of five as at present.

2. In reply I beg to inform you that the present practice is in accordance with instructions issued by His Excellency the Governor in Privy Council.

3. I have forwarded a copy of your letter to the Colonial Secretary for the consideration of His Excellency the Governor."

(Sgd.) JOHN D'AETH,
Acting Director of Public Works.

Contagious Diseases Animal Law :—

The following letter from the C.S.O. was submitted :—

No. [illegible] 27th May, 1913.

"Sir,—I am directed by the Governor to acknowledge the receipt of your letter No. 426 dated the 19th ult. with reference to the question of amending the Contagious Diseases Animals Law 1909 and to say that His Excellency has given

full consideration to the proposals of the Agricultural Society in the matter, but that he is not prepared to go further than is proposed in the Bill drafted by the *Attorney General*, a copy of which was sent with the letter from this office No. [illegible] of the 17th February, 1913.

(Sgd.) ROBT. JOHNSTONE,
Asst. Colonial Secretary.

The Secretary was instructed to reply that the draft of the Amendments proposed did not meet with the view of the Agricultural Society at all, and that they were of the opinion that the amendments would be practically useless.

Agricultural Co-operation :—

The following further letter from the C.S.O. was submitted :—

No. $\frac{6912}{\text{S.S. Library}}$ 2nd June, 1913.
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"I am directed by the Governor to transmit herewith for circulation amongst the members of our Board a copy of a report to the Board of Agriculture and Fisheries of an Enquiry into Agricultural Credit and Agricultural Co-operation in Germany."

(Sgd.) ROBT. JOHNSTONE,
Asst. Colonial Secretary.

The Secretary submitted the Report which consisted of 510 pages. He was instructed to try and make suitable quotations from it in the JOURNAL.

Resolutions from Branches :—

The Secretary substituted the following Resolutions from Branches :—

(a) Moneague Branch *re* Orange Trade.

"That the Moneague Branch Agricultural Society, being impressed with the possibility of a good orange trade being developed between this Island and the United States of America in view of the fact that the duty in the United States is about to be substantially reduced, asks that the Government consider the ways and means of protecting this industry by way of enforcing rigid supervision over the class of fruits being exported, so that the industry might be of permanent good to the island."

Mr. Muirhead said if he was in order he would like to discuss a matter about orange trade. He noticed from the newspapers that consignments labelled Sweet Oranges had been sent away containing Seville Oranges. If people were unscrupulous enough to do this he thought their names should be taken and published.

The Chairman said that this was not a matter for the Agricultural Society; they could not constitute themselves Inspectors of fruit; that was a matter for the Government.

The Secretary was instructed to send on the resolution to the Government, and to state that the Board of Management were in sympathy with it.

(b) Browns Hall Branch *re* Trees on River Banks :—

"Whereas it has been observed that trees growing on the banks of streams help in time of severe drought to preserve pools of water in the river beds, and in times of heavy floods to prevent the river banks from breaking away. Be it Resolved:—

"That a Law be enacted to prevent the wholesale cutting of trees from the immediate banks of certain streams and to compel the replacing of trees which it may be found necessary at times to remove, by the planting of useful economic trees along the river banks."

The Chairman said that there was a Law to pretty much the same effect passed under Sir Henry Norman's Administration, but it had always been a dead letter and had been repealed under Sir Henry Blake's administration.

The Secretary was instructed to send forward this resolution to the Government.

Grants to Shows :—

The following applications for Grants to Shows were submitted: Enfield to be held on the 14th August next; Porus to be held in November next; Stony Hill to be held in January, 1914; Sav.-la-Mar to be held on the 1st of January, 1914; Rio Magno to be held on the 8th January, 1914.

Applications :—

The following applications for affiliation were submitted :—(a) Blackhill (Portland); (b) Crofts Hill (Clarendon); (c) Mount James (St. Andrew); (d) Brandon Hill (St. Andrew); (e) Bloxburgh (St. Andrew); (f) Albion Mountain (St. Mary); (g) Baxters Mountain (St. Mary); (h) May Pen (Clarendon).

The Secretary said that the Instructors Committee had considered these applications and recommended that Mount James, Bloxburgh, Albion Mountain, Baxters Mountain and May Pen be affiliated, that the members of the Blackhill Society should be asked to join in with the Swift River or St. Margaret's Bay Branch; that Crofts Hill be asked to join with Brandon Hill Branch in Clarendon; and that Brandon Hill (St. Andrew) be asked to join with the Mount James or Castleton Branch.

The local Societies recommended, were affiliated and the Secretary instructed to advise the others accordingly.

Cocoa Competition :—

The Secretary submitted report of the judging of the Cocoa Competition in St. Mary which he was directed to publish in the JOURNAL.

Instructors Reports :—

The Instructors Reports and Itineraries for the month of May were submitted and directed to be circulated.

The Secretary stated that at the direction of the Instructors Committee he had asked the Government to appoint a Medical Board to examine Mr. J. T. Palache and report as to whether he was physically fit to continue the active and strenuous work of an Agricultural Instructor. Their report was that he was not. The Instructors Committee had therefore to give Mr. Palache three months notice as from the 1st of July of the termination of his appointment with this Society. It was under consideration however whether some other work in connection with this Society could not be offered to Mr. Palache.

This was approved.

Statement of accounts was tabled.

New Members :—

The following members were elected :—Ed. G. Reid, Half-way Tree P.O., Henry W. Osmond, Port Maria P.O., J. E. L. Cox, Claremont P.O.

The meeting adjourned until Wednesday the 16th July at 3.30 p.m.

COCOA COMPETITION.

MEMO BY MR. CRADWICK, AGRICULTURAL INSTRUCTOR.

I forward for the information of the Board of Management of the Jamaica Agricultural Society the Judge's Report on the Cocoa Competition in St. Mary and a few remarks thereon.

In the first place I would like to remark that the cocoa industry is directly responsible for the inception of the present scheme of Agricultural instruction in Jamaica and indirectly for the existence of the Jamaica Agricultural Society.

Mr. James Welsh, Clerk of the Parochial Board of Clarendon, I think it was in 1892 drew the attention of Sir Henry Blake then Governor of Jamaica to the wretched condition of the cocoa in the St. George district of Portland and the great loss of money incurred by the want of proper preparation of the product for the market, with the result that I was selected by Sir Henry Blake to be sent into that district to see if I could be of any help to the small settlers there. To show what wretched stuff the small settlers did prepare in those days I may here remark that the difference between the price of small settler cocoa and the best plantation Jamaica cocoa was about 30/. By referring to the Markets reports of to-day it will be seen that the difference as a rule now is about 7/.

When I arrived in the Buff Bay valley I found a truly appalling state of affairs, not one single small settler even attempted to ferment his cocoa. Plenty of cocoa there was of excellent quality which was most industriously spoilt in the curing. Of course there was all sorts of excuses but the fact remains that not only in Portland but also in St. Mary at least £1 per cwt. was lost on every cwt. of cocoa produced by the small settlers for the want of proper methods of curing. It will be noticed in Mr. Wates' report under the head of "Curing" that every Competitor fermented his cocoa and many cases of 6 and 7 days fermentation were seen and some excellent dry cocoa. Thomas Davis had a nice sliding tray barbacue. Thomas Davis I may remark is a genuine small settler.

I made my first trip as an Agricultural Instructor (although I was not called that in those days) into St. Mary in 1896 when it was necessary for me to carry a fork in the buggy to give demonstrations a remark being passed at a gathering in Belfield that they could not use that thing, hoe was better, that thing for cow.

Mr. Wates remarks under the head of "Forking" "When done, this was mostly well done, the use of the fork was universal." Under the head of "Trenching" Mr. Wates remarks "In some holdings however, trenches are still laid out straight down the hill." I would like to point out however that four of the Competitors were awarded the maximum marks for trenching, I myself was particularly struck with Mr. Banks trenches at Eliot.

Mr. Wates remarks under the head of "Prevention of Canker and Curing" "In some districts the ravages of Canker were very marked much more so than anything I have seen in Portland or St. Thomas."

I may remark that I have seen in the Eastern end of Portland Canker quite as bad if not worse than any part of St. Mary while the ravages of Canker on at least one estate in St. Thomas were very bad some years ago.

I approve of Mr. Wates suggestions regarding the modification of the marking system in future competitions, but would add a further heading for the management of shade trees.

The work of Mr. Thomas Davis at Richmond Road would hardly have been carried out had it not been for the inauguration of the Branch Society there. The Sulphate of Iron and Lime which he used was bought through the co-operation of the Society and has been bought by other members of the same Society but they are not so thorough in their methods.

I would like to draw attention to Mr. Wates suggestion of giving marks for spraying. It does appear to me that when we inaugurate a competition entirely confined to small settlers and introduce a feature such as this spraying of cocoa trees as an integral part of it, we have progressed very far. Mr. Davis had sprayed part of his cultivation and the result has been so encouraging that I think there will be little difficulty in persuading him at any rate to spray regularly and there is no doubt that his example will gradually be copied in the same way that other features in the cultivation have been copied throughout the parish.

The practicability of spraying the steep hillsides such as Mr. Davis', has been demonstrated by the use of the Holder Patent Pneumatic Spray Pump introduced by myself through the instrumentality of a pamphlet kindly given to me by S. F. Ashby, Esq., Government Microbiologist.

It is intended to present all the Prize Winners with Certificates and to make their presentation the occasion of a function, probably at Richmond and I would suggest to the Agricultural Society that on that occasion it would be a good thing if they could arrange for all the Instructors interested in cocoa cultivation (and I think they all are) to attend this function, when arrangements could be made for them to see the first three prize winning holdings. As I am of opinion that they would benefit by the inspection.

I would also suggest that the Instructors Committee inspect these holdings, as I feel sure that they would be gratified at the work done and be afforded a practical demonstration of the utility of the money spent on this work. If it were possible, I would be exceedingly gratified if the President of the Society could see his way to be present at the inspection as well as any other members of the Board of Management.

I enclose a photograph of the Richmond Road Competitors standing beside the diseased wood mentioned in Mr. Wates' report. I also enclose photograph of the stem of a tree treated severely but scientifically for the excision of Canker.

It will be noticed that the disease was so deep seated as to necessitate cuts of a severity which nearly deprived the tree of the whole of its bark, but so skilfully was the operation carried out that the tree is now a beautiful healthy vigorous looking tree and if it were not for the tremendous scars, which however are rapidly healing, it would be hard to believe that this tree nearly died of Canker.

(Sgd.) W. CRADWICK.

REPORT OF JUDGING.

1ST, ST. MARY SMALL PROPRIETORS COCOA CULTIVATION COMPETITION MAY 1913.

According to instructions received from the Secretary of Jamaica Agricultural Society I proceeded to St. Mary on May 3rd and commenced judging in the above competition on Monday the 5th May and completed the undertaking on May 29th.

General Remarks. -This competition has undoubtedly proved itself one of the most successful and most useful that has ever been held in the Island.

The number of holdings actually judged was 85, the number of entries 106, 21 withdrawing either because the continuous wet weather prevented the competitor getting ready or through illness.

It would seem that if the object of such a competition is to

(1) *Interest as many people as possible.*
(2) Keep them interested.
(3) Effect a definite object in improving conditions agricultural.
(4) Teach those competing a definite lesson as a result of the judging.
(5) Foster and encourage a large, growing and financially important industry for the parish affected—then by the inauguration of a competition as that just completed, such an object has been successfully accomplished.

There is not therefore in my opinion any doubt that the £20, allocated by the Committee of the St. Mary Trust Fund, (Hon. R. P. Simmonds, P. A. Benjamin, Esq., A. C. Davidson Goffe, Esq.) to the purpose above described has fulfilled the object which was aimed at and has resulted in a competition that must, if followed up have a permanent and deep effect on the cultivation of cocoa among the smaller Planters in St. Mary.

The necessity for greater care to be taken in the prevention and control of Plant Diseases of Cocoa in St. Mary, the lesson which this competition has been especially trying to teach, has been amply justified by the pruning results etc., seen in nearly all the holdings judged.

The enthusiasm shown by the competitors and the officers of the different Societies has been both pleasing and encouraging, no less than 19 different centres being visited.

The marking of each competitor has been carefully adjusted from notes made on each point of the competition, in the holding itself, and as will be seen by the list attached, the struggle for first place was exceedingly keen.

The holdings from 1 to 30 are all excellent cultivations, on which intelligent effort has been expended, and of those *remaining, there are few* which do not show the most decided effect of the competition.

As will be seen by the markings, the great weakness of the last 30 holdings has been failure to remove dead pods and to bury same.

In the case of that matter I have in all cases marked down low, the matter *being one of the chief points the competition is trying to teach.*

The careful study of the marks will teach every competitor where he failed and in the case of his competition where definite and clear indications of what is required are given it should be an easy matter to put in better form the points of failure. The holding of the winner of the 1st prize is one of nearly 9 acres and is remarkable for the fact that he has sprayed or washed the whole of it through with the Iron Sulphate and Lime application.

This competitor volunteered two statements to me, first that since he had followed the advice given him, *re* his cocoa he had sold his cocoa pods to the factory as they run, one for one, but that before he had to sell three for one, secondly, that the Instructor's visits were one of the greatest blessings he had ever received. At this holding and at one or two others in Richmond Road a splendid illustration of what could be done and had to be done to put all cocoa in shape, was shown by the cart loads of old dead wood and diseased limbs cut from the trees and carried out ready to cart away and burn in the Richmond Bakeries.

This will be more readily grasped by the accompanying photograph taken on the spot by the Instructor, Mr. Cradwick. The holding of Mrs. Ann Francis at Mt. Angus is another illustration of how much there is to do in this way in an old and neglected cocoa cultivation and what excellent results may be obtained by persistent effort, even by a member of the weaker sex.

The second prize holding is worthy of notice for the way in which the cultivation, badly injured by the November storm, has been put back into planter-like condition, and also for the fact of its being a holding that is apparently always kept in condition, the owner Mr. Goldson having won three prizes in former competitions.

But for the fact that Mr. Goldson had forgotten to cover a mass of pod shells, already placed in a well prepared trench, the 1st prize would have gone to *this holding.*

The 3rd prize holding is one on which may be seen the best and most skilful *scientific* pruning to be found in St. Mary, and I have no doubt in all Jamaica. The three Tulloch brothers who are working this place seem to be experts in *pruning* and I would certainly advise other competitors, who are going to try again, to visit this holding for the purpose of seeing the pruning. They will be welcomed by three enthusiasts.

The 4th holding is a good illustration of what may be done by a gentleman who has not time to do the actual work of his cocoa cultivation himself. Whilst by no means perfect in details of pruning, yet the holding shows what can be accomplished by careful and detailed supervision.

The 5th holding is situated high up on one of the hills beyond Annotto Bay and entailed a long ride over bad roads ; this competitor worked hard to fulfil all the obligations of the competition and is likely to be a pioneer among a large number of people cultivating cocoa in the Baxters Mountain district.

The 6th prize winner is from Lucky Hill. It is to be noticed that Lucky Hill has taken the 6th, 11th, 14th and 29th places out of 5 entries made. The reason for this is the work of a man who having learnt to prune and care cocoa from the local Instructor himself, has made a point of helping all those entering the competition in his district with happy results.

I am suggesting the prizes be awarded as by the attached prize list. There are very few districts which have not won some form of distinction or recognition.

Information and instruction was given in all cases as the competition progressed.

As a rule competitors were only too willing to learn, although in one or two *cases, self sufficient and know everything individuals were met with.* No doubt they will now recognise that there is something to be learnt in cocoa cultivation.

Competitors should not be discouraged, as many excellent holdings failed to win a prize only on account of weakness in one point. The following marks on *the details of the competition may be useful.*

PRUNING. The majority of those entering showed distinctly the results of *the demonstrations in the different districts.* In many cases the lesson was only half learnt and the resulting cuts not made sufficiently close were a cause of loss of marks for pruning.

In only one case did I observe that tarring of the wounds had not been more or less carried out. In many of the holdings the pruning was of great merit, much better than seen on most large estates, which might learn a lesson from some of those competing.

Attention has already been called to Mr. Tulloch's place at Petersfield.

FORKING. When done, this was mostly well done. This however is not the usual time for forking old cultivations in St Mary. The use of the fork, however, was universal.

TRENCHING. In most cases more or less done. In some holdings, however, trenches are still laid out straight down the hill and must be corrected. In others none was made though badly needed on steep hill sides to prevent wash etc.

REMOVAL OF DEAD PODS FROM TREES. This was carefully looked after in nearly all cases, but unfortunately in very many holdings the further :—

BURIAL OR BURNING OF ROTTING PODS was not carried out. The competitors now, however, I feel sure realise the importance of this if they want to win a prize.

PREVENTION OF CANKER AND CURING. A good deal of canker of one sort *and another was noticed but a very great deal of work has been done* by most competitors to fight this disease and prevent it, no case being seen in any of *those holdings which have been awarded prizes. A number, however, did not* realise what the disease was or how caused. Mr. Thomas Davis and Mr. Goldson are *good examples of what can be done. There is no question that owing to the* large amount of cultivation and the closeness of holdings to each other, these diseases such as Pod Rot and Canker spread easily and quickly and unless controlled will do even more serious harm than at present.

In Albion Mtn. district and one or two others, hardly a pod was to be seen but was absolutely browned by Thrips.

In some districts the ravages of Canker were very marked much more than anything I have ever seen in Portland or St. Thomas.

MANURING. This wants more attention and putting out more regularly, the burying of the pods on the poor spots, the collection and burial of rubbish in the

shallow trenches on the hill sides, and the regular distribution of mulch and farmyard manure, are lessons needing more learning through these holdings.

ROADS. This is the most important part of the holdings and should on another occasion be very severely marked. There are very few holdings that have a pathway to conveniently and quickly get about. This should be looked after.

CURING was difficult to judge, as many people do not cure but sell by the pods.

However it is remarkable that every competitor fermented his cocoa and only three or four used metal to dry on, many cases of six and seven days fermentation were seen, and some excellent dry cocoa. Mr. Thomas Davis had a nice sliding tray barbacue and several good cement ones were seen.

CONCLUDING REMARKS. Competitors in some cases may be disappointed at the result of the competition after having gone to considerable trouble in cleaning up their places. These, however, should realise that the weeding clean of a holding alone could not obtain a prize nor could the size of a holding as long as it was one acre, affect the judging, 100 acres of poor cocoa could not take higher marks than a good holding of one acre.

I am satisfied that this competition has done an immense amount of good and am of opinion that such competitions suited to the particular leading industry of any district must be of incalculable value. I have been delighted with the enthusiasm shown over such a wide area and by so many people and the interest taken by the planters was very encouraging and worthy of imitation in other parts of Jamaica.

It is to be hoped this competition may be repeated, though I pity the judge; so many of those competing having proclaimed their intention of getting 1st prize next time.

I am of opinion the marking system might be improved, somewhat on these lines.

I think it would be better to reduce the curing marks to 5 as this is a difficult thing to get satisfactory results, many not curing at all, many having no crop in hand. Fermenting and proper drying facilities should be the two points considered. The 5 marks might be given for tarring and protecting cuts. Forking might be reduced to 5, and 5 marks given for sanitation, such as cleaning up and removal of dead limbs etc. Canker treatment should be sub-divided into 10 for spraying and for washing with Sulphate of Iron and Lime and 10 for general treatment. To the competitors I would say, I shall be glad to explain my judgment in regard to any holding if the competitor cares to communicate with me.

In conclusion I have to thank all those who helped to make pleasant the somewhat arduous duties I have had to perform, and trust the results will prove satisfactory to the promoters and the competitors and will lead to an even larger competition in the future.

(Sgd.) LEO A. WATES

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THE IMPORTANCE OF LIME. The effect of lime on the soil (says the *Mark Lane Express*) is threefold—nourishing, chemical, and physical. (1) Its effect as plant food.—Lime is an absolute necessity for the growth of plants, although the requirements of the different crops vary in proportion. Leguminous plants of all kinds are especially exigent for a liberal supply. Soils unable to support a crop of clover may be brought into a condition to grow a plentiful one by a dressing of lime. Roots, cereals, garden produce, all require a soil well stocked with lime; indeed, all plants exhibit a strong, healthy growth in soils where lime is sufficiently present, assuming, of course, the other plant foods are also in abundance. Under its influence the plants develop more powerful root growth, more solid structure, and greater capacity to withstand disease. Fodder crops produced in lime-rich soils contain better nourishing qualities than crops grown in lime-poor soils. (2) The chemical effect of lime.—The soil is sweetened by application of lime. The mineral food constituents in the soil, such as potash and phosphoric acid, are rendered more quickly available by its action, and it causes a more rapid decomposition of the organic substances by encouraging the activity of bacteria. Soils that, in consequence of sourness, are unable to grow satisfactory crops are soon changed by the action of lime into a healthy condition. (3) The physical effect of lime.—The physical and mechanical condition of soils is improved by applications of lime; it makes the soil looser, warmer, and more friable, more easily tilled, and not so liable to crust on the surface. Cold stiff clays are wonderfully improved by its action.

ST. MARY COCOA COMPETITION.

AWARDS.

No.	Name.	District.	Total.	Prize.
	Maximum Marks.		100	
1.	Thos. Davis,	Richmond Road	89	£4.
2.	R. M. Goldson,	Cromwell Land	88	£3.
3.	Laughland Tolloch,	Petersfield	84	£2.
4.	J. Banks,	Eliot	84	£2.
5.	R. Gooden	Baxters Mt.	84	£2.
6.	G. A. Pottinger,	Lucky Hill	81	£1.
7.	Jos. Robins,	Pimento Hill	80	£1.
8.	R. Cruikshank,	Hampstead	80	£1.
9.	Miss DaCosta,	Killancollie	80	£1.
10.	Jno. Barker,	Bellefield	79	10/
11.	U. Williams	Lucky Hill	79	10/
12.	E. A. Gunter,	Eliot	79	10/
13.	H. Davis,	Richmond Road	79	10/
14.	E. Pottinger,	Lucky Hill	79	10/
15.	M. H. Helps,	Belfield	79	10/
16.	B. Officer,	Richmond Road	78	5/-
17.	J. S. Saunders,	Albany	76	5/-
18.	Mrs. S. A. Brown,	Mt. Angus	75	5/-
19.	J. Parodie,	Preston	75	5/-
20.	G. McKenzie,	Belfield	73	Certificate
21.	Wm. Hirst,	Windsor Castle	72	do
22.	C. L. Gordon,	Mt. Angus	72	do
23.	R. D. Sutherland,	Jack's River	71	do
24.	Alex. Donald,	Enfield	71	do
25.	John A. Grant,	Tryall Hill	68	do
26.	Ann Francis,	Mt. Angus	68	do
27.	Ed. Moore,	Dean Pen	68	do
28.	T. Officer,	Richmond Road	68	do
29.	G. B. Pottinger,	Lucky Hill	67	do
30.	Ed. Maclean.	Albion Mts.	65	do

There were other 55 competitors.

—:o:—

A NOVEL WEATHER GLASS.—Gingerbread is easily affected by atmospheric changes. The slightest moisture in the air makes it soft; in dry weather it grows hard and tough. A clever Frenchman has utilised this fact in an odd way. The toy figure of a general made of gingerbread, and hung by a string on a nail, is his barometer. Every morning, on going out, he asks his servant, "What does the general say?" and the man applies his thumb to the gingerbread figure. Sometimes be replies "the general feels flabby about the chest; he would advise your taking an umbrella." On the other hand, when the general's symptoms are "hard and unyielding," the Frenchman sallies forth arrayed in his best, with no fear for his spotless suit or his new hat. He says the general has so far never proved unworthy of the confidence placed in his prognostications.

SALTING BEEF.—The following is a very old and excellent pickle:—Fresh water, 4 gals.; coarse brown sugar, 1½lb.; salt petre, 2oz. common salt, 7lb.; put all in a boiler, take off the scum as it rises, and when well boiled let it remain to get cold. Have sufficient to cover the meat, lay a cloth over it and keep the meat pressed down by bricks or any weight. The same pickle may be used again by reboiling, and adding a small quantity of each ingredient, fresh.

SISAL HEMP—Continued.

CHAPTER 4.

THE YOUNG PLANTS THEIR SELECTION.

The Nursery for their first reception, field planting.

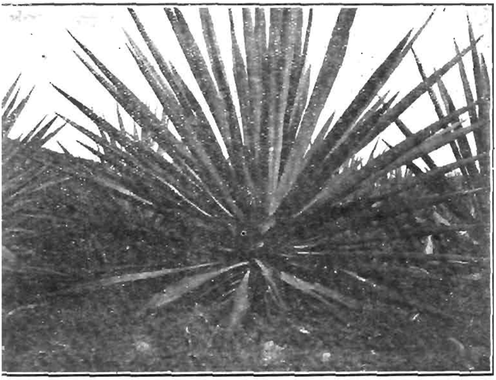
In selecting plants for setting out in the fields, while they should be young and healthy, they must be out of what may be termed "state of tenderness" that is, not too young or too small.

Transplanting in the field may be begun when plants are about 15 to 18 inches in height, (but they should not exceed 2 feet) taking of course into consideration their age, for the reason that they will grow quickly and reach maturity early. If young suckers are obtained which are not yet fit for field planting, a nursery must immediately be established for them, which consists in getting a plot of soft land or digging up for the purpose and securing it with a fence; this place must be free from all shade or it would be harmful to the plants, which require all the exposure possible to the sun. In procuring the plants it is necessary that their roots remain on them for transportation purposes, so that they may retain their vitality for a long time. In the nursery they may be planted at a distance of 18 inches apart (which makes about nineteen thousand suckers to the acre) and in the following manner: first take off the dry leaves then cut the roots clean off; and pare as closely to the trunk as possible all around without injuring them, but not so deep as to allow the leaves to fall off; after this place them in the earth perpendicularly, putting in and covering only the lower parts of the trunk with soil; all this care and attention in their infancy is the way to have quick returns, and although not yet transplanted in the field still they require all this attention which will amply repay the planter as they will lose no time in developing in the nursery and when set out in the field will advance quickly.

Field Planting.

The idea of taking advantage of the field in setting out a large number of plants has been carried in some cases to such an extent in Yucatan as to be prejudicial, not only in the plants not developing fully, but foı the difficulty which occurs in the culture and exploration, of them when they are grown up, as the leaves of one plant meeting those of another, block the passage between them, preventing easy approach to the trunks, a thing absolutely necessary for cutting the leaves, cleaning the field and removing the young shoots. The correct distance in planting is 12 by 6, that is, the rows 12 feet wide and the plants 6 feet apart in the rows, which after they are grown up, leaves clear passages, thereby giving sufficient space for inspecting the field and for the pasturage of stock; this latter obtains in Yucatan.

Experience has proved this the best method of planting; it also allows the free penetration of the heat of the sun whose effect on the plants in regard to strength of growth and yield of fibre are wonderful. The above spacing gives 605 plants to an acre. Now after having the field clean and ready, stretch lines with the distances marked off, or it may be pegged out as the cultivator likes, so that it may be straight and regular, and proceed to open the holes

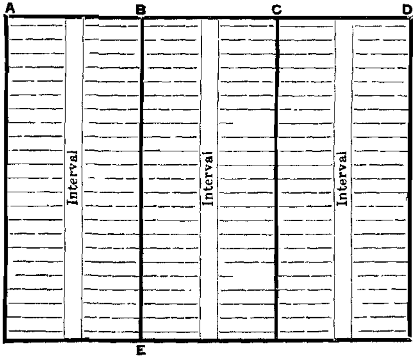


TRUE SISAL HEMP.

for receiving the plants. The holes can be dug with a pick or common digger and must be about large enough to receive only the lower parts of the plants which should be put in in an upright manner and the earth drawn around, leaving exposed some portion of the trunks. On removing the plants from the nursery for setting out in the field, they must again be pared, and any roots springing out during their stay in the nursery, must be cut away. They at this stage ought to be treated in the same way as when they are planted in the nursery; it is gratifying to know the advantage gained in growth by this treatment. If the suckers are planted in the correct manner there will scarcely be any necessity for supplying, *i.e.* very few will be lost in the field.

As the space mentioned for field planting would not be sufficiently wide for the carts to pass through, without injuring the leaves of the trees, it is therefore necessary to have wider ones or intervals where they may take up to carry to the works the leaves which are put at those intervals by the cutters; the intervals ought to be wide enough to allow two carts to pass each other freely.

For ease to the cutters as well as convenience to the planter I suggest a plan of laying out a field of say 31½ chains long as the following figure shows:—



The length of the field in the foregoing figure is divided into 3 equal portions, each of which measures 10½ chains, A to B 1st portion, B. to C 2nd portion, C to D 3rd portion, in the middle of each runs an interval of proper width having a depth on either side within each portion of 5 chains.

The short lines across indicate the rows of plants between which the cutters work, who therefore have while cutting in any portion a distance of not more than 5 chains to carry the leaves to the interval where the carts are loaded.

Each portion has its boundary line as is shown from B to E etc. It will be found if this plan is adopted how much the carriage of the leaves is facilitated.

CHAPTER 5.

After culture, Catch crops in field, Pole or Stalk.

The after culture consists in first attending to the plants in the field and keeping them free from weeds.

The number of times a field ought to be cleaned in a year depends on locality, soil and rainfall; if the planter wishes to obtain the best results, he should as much as possible stick to the rule that "the field be kept in a state of cleanness." It may not be altogether requisite to clean the field when the weeds are below the level of the plants as at that height little or no harm is done, but they should never be allowed to grow as high as, or reach above, the sisal suckers.

The plant is never moulded in Yucatan, it is considered there that ploughing and moulding (where admissable) would prevent it generating as it ought. In my experience I know that the less soft *the earth, the sooner it produces shoots.*

Next, the young suckers or shoots that may grow around the principal plant ought to be taken away for other fields; if not required they could still be cut off and thrown away as they naturally take away some nourishment from the mother plant.

In my opinion there would not be any necessity of resorting to the destruction of the shoots for if one started here, the owners of plantations would find purchasers for as many as their fields would be capable of turning out.

There being plenty of space, anything of low growth which will not choke the Sisal may be planted in the field as a catch crop up to harvest time.

Just here I strongly advise not to cultivate what will spring above the hemp, for this would certainly keep back the growth.

Pole.

The sign of the termination of the existence of the Sisal Hemp plant, is when it sends up a pole or stalk from the centre; this happens when the plant reaches the cutting age, and the leaves are left uncut, for notwithstanding its youth it dies, or in the other case where the tree attains old age and it gets to the end of its life.

The pole reaches a height of from 12 to 18 feet. In the upper part it sends out suckers similar to those which grow around the root, they are of course very small bulbs at first. In Yucatan planters are not under the necessity of using them as field plants for the reason that there is at all times a large number of shoots of advanced growth at the foot of mother plants which are easily and readily obtained. I have made the test and found the pole plants to grow vigorously and rapidly and well suited for field planting. A pole or stalk will produce up to about 4,000 bulbs. I think I should not omit to mention that apart from the shoots which grow around the root of the plant and those which the pole produces, Sisal Hemp possesses another medium of reproduction, and this is in its seeds. These seeds may be found in fair quantities in the hanging capsules of the superior ramification of some poles, and it is said if they are gathered in a right state and dried may be sown in the same way as any other seed and that plants would be obtained equal to those that are got in the usual manner.

I do not doubt the fruitfulness of the seeds, as, although I have not experimented on it, old planters in Yucatan assured me that they have been sown and afterwards planted with good results.

I mention this merely to show the different ways this Hemp is produced, as industrially speaking it may not be of great utility to have recourse to this mode of reproduction when nature has given a more convenient style and consequently better adapted to the necessity of its growth.

CHAPTER 6.

Maturity and harvesting of the leaves, tool used for cutting, carriage from the field.

We now arrive at a point which is to show us when the leaves are fit for the machine to extract the fibre; a thing of great importance. For the harvesting of the leaves we must take into account, first their length, second their ripeness.

1st. Their Length.

The length of the leaf is of very great importance as fibre of this class (Sisal Hemp) is most saleable when it is not less than about 3 feet long.

The leaf generally with good cultivation reaches this length at the age of 3 years and on quick soil earlier. The leaf increases in length as the plant increases in years, up to a certain age.

I can show leaves of Sisal grown here up to 4½ feet long. The length therefore of the leaf as it stands on the tree should not be less than 3 feet, in order that after trimming off its sharp point it may turn out the fibre to the minimum length; this is an invariable rule and of primary importance. I am certain of the plant attaining this in Jamaica earlier than in Yucatan.

2nd. The matured state. This consists in (a) its position on the tree, and (b) its colour, chiefly the former.

(A) Its position on the tree. So soon as the leaf which at first grew upright and afterwards inclined downwards, getting longer during that time—reaches a horizontal position or nearly so, it may be considered ripe and be at once cut. After it moves from this position towards the earth, it grows no longer, but begins to shrivel, and after its point touches the earth it decays. If allowed to grow too far beyond the matured state it will be found after extraction to contain a spotted fibre and less quantity than a ripe leaf; the result from an unripe leaf would be similar, in producing less fibre with the exception of not being spotted.

(B) The Colour. The colour of the young leaf is a light green, and this on its maturing will change to a dark green which is easily perceptible, and when the leaf reaches the ripe position as already mentioned will show up fully confirming the fact of its maturity. The above description of the length and ripeness of the leaf, does not imply that it contained no fibre before this stage, quite the opposite, it had all the time, and were the short fibre profitable, the decortication could have been started in 15 months or so after planting, by cutting unripe leaves. From its start the leaves are continually dropping down and falling off, giving place to the new ones growing out.

The knife used for cutting the leaves off the tree is of a half round, the shape of a scythe or grass knife, but smaller, with a short hollow iron handle to admit of a wooden one of the necessary length to reach to the trunk of the plant; the knife must be of good steel and kept sharp to give a clean cut and facilitate the cutter.

To cut the leaf in the proper manner, the cutter must put himself in such a position as to face the leaf from the side; the bottom leaves ought to be cut first, so as to prevent any injury to the fibre from the knife slipping and cutting into other leaves, which would be the case if the upper ones were cut first.

The knife must be started on the opposite side or edge of the leaf and drawn across and it will be found to come off freely.

The greatest caution must be observed to cut the leaf as closely as possible to the trunk of the tree; neglecting this important duty will end in loss; first, it will lose a small quantity of fibre that amounts to an appreciable quantity in a large number of leaves; next, if the stump where disunited at any length from the trunk it tends to shorten its existence.

Immediately after the leaf is cut and before removal, the prickles on both edges must be rubbed off and the sharp point at the end cut off, which can be done with a small cutlass or large knife, and so carefully, as not to trespass on the limits of the valuable leaf.

This operation is very necessary for the easy manipulation of the leaves in the field and at the machine. The leaves must now be made up in bundles—butt and point alternately—of 50 or 100 as the planter may think best; this is for the purpose of counting easily and rapidly on receiving from cutters and delivering to operators at the machine, all of whom including cartmen are paid by the thousand.

The bundle of 50 is more suitable, being of less weight, rendering it handy and so giving ease to the cutters, cartmen and others, more so the first of these, who have to carry from the point in the row where cut, to the interval where the cart is loaded. A cart carries from 1,000 to 1,500 leaves in one trip to the works.

Care must be taken to inspect the cutting, or the cutter who does this work by task, may, to suit himself, cut off green as well as ripe leaves. I must take the opportunity of mentioning that close attention will be required at this stage.

At this time if the plant is neglected and the ripe leaves remain uncut, it sends out the pole, the appearance of which as already explained means its doom and a great loss to the planter who will in no way relish it.

Here begins the constant work which is really the case as there is no cessation, the crop going on from January to December. The proof of this is, that a large field or plantation on which the cutters start, will by the time the end is reached, be ready for going over again, and so on.

And this obtains during rainy or dry weather, Great care must now be taken so as not to lose the leaves after cutting, nor the filament after extraction by wrong treatment. At this time there ought to be a large number of young shoots around the plants which may be taken away to supply other fields.

To be continued.

ROTATION OF CROPS.

BANANAS.

The impossibility of profitably rotating crops on the best lands in St. Mary is a generally acknowledged fact. The man who sees a crop more profitable than the banana for these soils, is either a *giddy optimist* or *an unappreciated economic agricultural genius.* The necessity of maintaining the high state of fertility of these soils is also generally recognised. The best practical method of doing so is not quite such a simple matter. The most generally attempted method, outside the application of such "Farmyard" manure as results from the feeding of working stock, is the planting of some kind of Leguminous crop. The making the most of the Legume grown is in the near future, if it has not already become so, likely to be an important question for the St. Mary banana grower. Already large (comparatively) areas of various peas and beans are being cultivated, and owing to the variety of methods, or the lack of method with which these are treated, differences of opinion are being expressed as to the resultant value.

It is to try and throw a little light on this question that I am inflicting this short article on the readers of the JOURNAL.

The primary object of growing legumes is to increase the nitrogen content of the soil. Nitrogen, I may here remark, is a great help to leaf growth. The growing and burying in the soil of a pea or bean (Leguminous plant) adds however not only Nitrogen to the soil. In Morton's Handbook of the Farm "The Soil" it is stated that, "Many of these crops when ploughed in green, are, weight for weight, almost as good as farmyard manure, containing large quantities of nitrogen, phosphoric acid, and potash. The great weight of decomposable vegetable matter contained in the root as well as the leaf of a crop grown for being ploughed in as manure is to be considered in estimating its effect as a fertilizer. *Eight to twelve tons per acre may be grown of any of the crops we* have named with the aid of Guano. "The green crops should, if possible be ploughed in just before the time of flowering."

The first and last of these extracts I particularly desire to impress now on Planters who have made a start in the highly desirable direction of growing Leguminous crops for the fertilization of their land. The second paragraph I intend to return to. In order to reap the full benefit of this method, the plant must be ploughed in so as to return to the soil, leaves, stems and roots in a form in which they will easily rot. If Overlook Beans, Jerusalem Peas, etc,, etc.. the use of which is now rapidly increasing, are left to come to full maturity, the stems become so hard and woody that they take a very long time to decay and become a help to the soil. By this method too there is a great waste of time as after the plants have attained a certain size, the increase of growth and consequent addition to the bulk of vegetable matter added to the soil is very small, while if one crop is buried as soon as it reaches its maximum growth and another is grown, quite double the amount of "decomposable vegetable matter" may be added to the soil in a given time.

Another point which Planters should carefully bear in mind is that the Leguminous plants need water, and if they are heavy

growers, a very large quantity of it, to produce roots, stems, leaves and flowers. And while there will be during a spell of wet weather on St. Mary soils sufficient and more than sufficient moisture, for both the bananas and the Leguminous crop, this may be very far from being the case during a sharp spell of dry weather. And it is quite possible for a strong growing Legume to undo during a sharp spell of dry weather, all the good that it may do by keeping down weeds and providing the Planter with an abundance of the best fertilizer in the world; by taking from the soil the water without which it is impossible for the banana to "full". The Legumes should be planted during the dry months of the Spring or Autumn, allowed to grow through the succeeding wet months and cut down and buried as soon as the succeeding dry spell sets in.

W. CRADWICK.

Highgate P.O.

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PLANT DISEASES.

CANKER IN COCOA.

The most serious disease which we have to deal with in Jamaica attacking the host plant through the stem, is that which is commonly known as "Canker" in Cocoa.

The best known form of Canker is due to a specific fungus variously described as Nectria Phytopthora etc., which causes Claret coloured patches in and under the bark of the tree, usually commencing in the larger parts of the stem. This disease is spread from tree to tree in many ways. The chief being by means of spores, which blow about and stick in any cut surface left in pruning, or any wound caused by wind twisting and cracking the bark, or bananas falling on the trees and breaking the branches, or in dead pods "rat cut" etc. left hanging on the trees, or by banana trash being left hanging on the trees, or branches rubbing one another. The spores start growing on these points, and enter the tree, the result being that large branches are soon killed and eventually the whole tree. A long spell of wet weather materially helps the spread of the fungus and often leads to the mistaken idea that the cocoa tree has died from lack of drainage, at the same time bad drainage will help to kill the tree.

Another form of canker causes long black vertical streaks under the bark, which penetrate right through the stem and kill the tree in the same way as the ordinary claret patch canker, is due to another fungus Lasiodiplodia and is spread in exactly the same way.

Other fungoid diseases of the stems of cocoa trees are dieback in its various forms, and due to the ravages of different fungi. These pests find entrance to the twigs usually through their being battered by wind which brings about forms of disease, whereas the wind is simply the cause rendering the twigs liable to be entered by the spores of the fungi through the cracks in the bark.

Both forms of canker, as well as die back have increased enormously in Cocoa plantations both large and small since the hurricane of 1903.

In fighting these diseases as all others, it must be always borne in mind that prevention is far better than cure, if a cocoa plantation is in an insanitary condition through want of proper drainage, see to that first. If bananas, which are nearly always interplanted with cocoa in Jamaica, are falling on the cocoa trees and tearing and damaging them, the wounds so caused must be trimmed and dressed with tar. If banana trash is hanging on the cocoa limbs, this must be removed as promptly as possible. Remove every dead pod from the trees and either burn or bury them. Remove every stick of cocoa wood large and small and burn it, as these also are often full of disease from which the seeds will blow back on to the trees. Then the very common practice of heaping soil round the stems of cocoa trees must be avoided.

Having seen to these details, and assuming that Canker of either description, Phytopthora or Lasiodiplodia, Claret Patch, or Black Streak is present, a careful inspection of every tree in the plantation must be made, every dead branch must be carefully removed, all cuts in taking off branches must be made right down to the base of the branch to be removed and the wound so made carefully treated with tar. The exact method of doing this can I fear only be taught by ocular demonstration, the method of applying the tar even, being of the highest importance. Every wound made either by falling bananas tearing the branches of the cocoa trees, or in the ordinary operation of pruning if not properly treated to prevent the entrance of moisture, is an open invitation to the spores of fungoid diseases to enter and destroy the cocoa trees.

It is well to assume that every cocoa plantation is infected with Canker even if only slightly, and no pruner can be entitled to be called such, unless he can detect the disease. Every tree should be examined and if even one dead twig is seen in a tree, examine that tree carefully. The Claret patch Canker of Cocoa (Phytopthora) can be detected by observing and searching carefully the stem of any tree where the slightest crack in the bark is observed, the slightest sign of moisture on any part of the trunk of the tree too, when the remainder of the tree is dry is usually a sign of Canker, there is no mistaking this deadly disease, if a crack or moist spot is observed, cut carefully through the bark, keeping a sharp look out for the Claret coloured bark. this is an infallible sign of this disease. If this Claret coloured stain is observed in the bark, cut away every scrap of it as well as every scrap of discoloured wood, taking great care to always cut in an upward direction, that is in the same direction as the tree grows, this should always be done by the way, in all pruning operations. Cut away every scrap of discoloured bark and wood, carefully trimming perfectly smooth with a very sharp knife, by cuts made in the proper direction, the bark of the tree. When this operation is complete, common gas or Coal tar should be thoroughly rubbed into the wounds, using the tar as sparingly as possible. The object of tarring the cut surfaces is to prevent the growth of the seeds or spores of any disease, which may be present and to exclude moisture in any form, and the efficiency with which the tarring is done is dependent, not on the quantity of tar used, but on the care with which it is rubbed into every little crack or crevice of the cut surface.

The Black Streak Canker although quite different in appearance and caused by a different fungus (Lasiodiplodia) is equally deadly in its effects to cocoa trees.

Any cracks or wounds in the trees must be carefully searched, and if black streaks are found in or under the bark, it is well to assume that this is the Black Streak Canker disease, usually where this is really present however it will be found that the black streak, instead of being merely superficial as in the case of a simple "water soak," penetrates far into the wood of the stem. There is only one remedy for this deadly disease and that is to cut out every scrap of it. If it is so deeply seated as to render it impossible of eradication, without destroying the tree to do so, it requires a very hard hearted man to deal with the disease, which is very bad in some parts of Jamaica, but it is no use dealing with it in half measures, destroy the canker or it will destroy the tree. Deal with the wounds as prescribed for dealing with those made in dealing with Claret Patch Canker. In the case of either form of Canker being present it will be usually observed that single branches of the Cocoa tree affected begin to die and go on until one large branch is quite dead, usually from the point downwards to the crown of the tree, as distinguished from dieback of cocoa twigs which usually begin to die in large quantities from the points and unless the disease is very bad do not die far down the tree until a very large number of the points have lost their terminal leaves. As soon as the first branch of a cocoa tree is observed to die without apparent cause, search that tree carefully and all others too, and if signs of either form of canker are observed, deal with it promptly and thoroughly. Both forms of canker find a sure and easy means of access to the branches and various stems of cocoa trees through dead pods which are left to hang on the trees after death, it does not matter whether these pods have died from disease, dry weather, wet weather, by rats eating them or from whatever cause, if left on the trees, the stems of the dead pods cause a water soak rot into the bark of the tree, the spores (seeds) of the fungi stick on to the damp spot so formed, start to grow there and so find their way into the trees. The abominable practice of pulling or twisting cocoa pods instead of cutting them off, is also largely responsible for both forms of canker finding its way into the trees, a healthy pod properly cut off with a sharp knife can never be a source of danger, an unhealthy pod left on or a healthy one so removed as to leave a jagged wound is a sure source of infection by disease. Wash the stems of the trees with Sulphate of iron wash or spray with Bordeaux Mixture.

DIEBACK.

Dieback is very rarely looked upon as a disease by Cocoa Planters and yet it is a very persistent and troublesome one. It can be recognised by the dying off of the points of the twigs of the trees, more particularly at the top and on the windward side of the trees. It is usually associated with bad drainage, which in itself is a pre-disposing cause and must be rectified if necessary before the trees attacked can be restored to good health. The spores or seeds of this disease which may be caused by more than one kind of fungus, usually attack the tender points of the young shoots, especially when the bark is cracked by the wind or exposure to too

much sun. The remedy is to protect from wind, and excessive sun, to prune off all affected twigs and branches carefully and burn them. Then spray the tree with Bordeaux Mixture.

Pod Rot of Cocoa.

This disease is easily recognised by the larger pods commencing to die in all stages of growth usually from the points up or from the base downwards occasionally from the centre in dark brown or black patches. This disease is due to the same fungus which causes the black streak Canker (Lasiodiplodia) and is responsible for a loss of from 5% of the pods in a dry year to 75% in a wet year, and I estimate, costs the Parish of St. Mary alone £10,000 a year. The remedy is to take every dead pod off the tree, carefully pick up these and all the pods and every piece of pcd lying about the cultivation and bury them in trenches or holes, preferably not in the cocoa cultivation. The spraying of the entire plantation with Bordeaux Mixture as a preventive measure is an easy and cheap matter, and will pay 100% all the time, the only thing is to get hold of the right kind of Sprayer. The Holder patent pneumatic Sprayer is as far as my experience goes, an absolutely perfect machine, light, strong, simple and convenient. Three hundred medium sized trees can be sprayed per day per man, using from three to four quarts of Bordeaux Mixture per tree. Bamboo extension tubes lined with copper render the spraying of all cocoa trees up to 20 feet in height a simple and easy matter The removal of dead pods from the tree and cocoa walks, as well as all dead twigs and branches must be carefully attended to, in fact without absolute cleanliness this disease will never be got rid of, it will practically disappear in dry seasons but the spores will be there and a damp season will see it as bad as ever again.

Colletotricose of Cocoa Pods.

This disease, said to be due to a fungus Colletotrichum Cradwickii is easily recognised by the pods dying off when about an eighth part grown or even larger. The pods in this case turn yellow and are covered with small black spots, and have a damp gummy feeling. A large number of pods are lost every year throughout Jamaica by this disease and it is usually ascribed to the tree "bearing more than it can manage." The remedy is the same as for the Pod rot. Remove the diseased pods and burn them, and spray with Bordeaux Mixture.

Recipe for Bordeaux Mixture.

Bordeaux Mixture.—Dissolve 4 lbs. of Bluestone in 25 gallons of clean water. Dissolve 6 lbs. of Temper Lime in 25 gallons of water, when these are thoroughly dissolved carefully and thoroughly mix in one vessel.

Sulphate of Iron and Lime Wash.

Dissolve 1 lb. sulphate of Iron in 1 gallon of water. Dissolve 1 lb. of Temper Lime in 1 gallon of water, mix carefully and thoroughly together in one vessel.

Note:—Bordeaux Mixture and the Sulphate of Iron and Lime wash cannot be stored in zinc, iron or tin vessels, but must be stored in either wood or copper. This wash is useful for ridding old trees of moss lichens, etc., and also checks the ravages of scale insects, it can be rubbed hard on to orange trees and trees of that class with a piece of coconut brush. It must be applied gently to cocoa trees and then there is no fear of injuring the flower buds, I have seen cocoa trees in full flower five days after the application of this wash. It is a sure *preventive* of all fungoid growths on the stems of cocoa trees but is not a *cure.*

Highgate P.O., W. CRADWICK

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MULCHING.

The more we see the effect of heavy mulching on light soils and in dry climates we realize the transformation that this process is effecting and can further effect in our agriculture. It enables good crops to be grown under such conditions, of products, usually grown only in districts of good rainfall and in strong land, and absolutely ensures crops from the plants accustomed to dry conditions, even in long drought.

But we are finding out something more and that is that *those soils in seasonable districts, which would not grow bananas* with the best of ordinary cultivation, such as the stiff red clays and "shotty" soils, will produce good bananas and enable cocoa to be established, by mulching. in addition to good deep drainage (2 to 3 feet).

Mulching has another great economic advantage. Jamaica is a land of valleys and often of steep and rocky hillsides which, beyond growing wood, are not utilised. And large stretches of these have been made bare of trees and are useless.

Where districts are dry, and where the soils of the cultivatable parts are poor, the land has been given over to stock, requiring a good many acres to support one head per annum.

In some localities owners are fortunate in having also Pimento and Logwood growing on such poor lands. Yet there are steep and rocky hillsides that are carrying no stock, but grow grass, weeds and bush. Even where cattle are grazed on steep and rocky hillsides not able to carry more than one cow per two or three acres a much better return, per acre, can be made by utilizing the grass and weeds and bush as mulch, as the good soil of the lower slopes and the valleys can be put under cultivation.

Every stock raiser in the Island can thus cultivate some economic crops, even bananas, by mulching his land. So that steep and rocky hillsides, where there is no pimento and no logwood can now add their quota to the Island's wealth. They are available as producers of mulching material. And it pays to carry this stuff—grass, weeds and bush—long distances, apply it even to the extent of £3 to £4 per acre, because the mulch ensures crops, prevents the growth of weeds and saves further turning over of the soil.

The application of a deep mulch saves at least two weedings at 6/- per acre and two forkings at 30/- per acre, as a minimum £3 12s. involved in cultivating the heavy lands in the regular banana dis-

tricts where there is a more or less heavy rainfall. In addition the mulch adds manure to the land and to some extent prevents wash on hillsides.

The difficulty in some places like parts of St. Elizabeth is for small settlers with limited land to get enough mulch. The provision of material for mulching in such places can be made by not permitting a scrap of household waste, droppings of animals, or roadside weeds, grass and bush, or roadside scrapings to be lost. The grass and bush along our roadsides can provide large quantities of mulch.

A new era in Agriculture is approaching we hope.

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LATE BANANAS.

By A. H. Hoare, 1913.

At this time of the year, banana growers should be looking round their cultivations to see whether the 1914 suckers are all in good order to meet the good spring prices. Owing to indifferent pruning and still more indifferent cultivation, banana fields are apt to get behind time and late fields mean poor prices and smaller profit. It pays to grow bananas at £10 or £12 per 100, but it cannot pay to grow them and cut the bulk of them in September or October at £5 per 100.

Suckers that have not yet shot out the bunch or are just shooting now are practically worthless from a monetary stand point and it is cutting both ways, for they are keeping back the followers which consequently may be thrown late next year, and be equally unprofitable. It will pay over and over to cut away these late mother suckers at once; then with a little perseverance the field can be brought into time!

This cutting-back system is seldom practised by the small cultivators; it may appear a drastic measure to adopt but all the same it will pay in the long run. Chop down all these belated suckers to within three feet of the ground, remembering to give the stumps of those suckers that have not yet shot, three good chops into the heart at intervals of about nine inches. This will prevent the suckers growing from the cut stem.

Now we must nurse along the late followers, and good tillage will do a great deal towards helping them to catch up the lost time. Fork deeply and break up the clods, keeping the soil as level as possible. Try and bury as many of the cut down suckers and weeds as possible. Fork up close to the suckers, and it will pay to remove as much of the old decaying heads as time will allow in the case of old fields.

Trenching does more for a late field than most people realise. If it can be afforded, every row should be trenched, for then one can cover the whole "bar" from either side with the fresh trench soil—a wonderful help to late suckers. One could safely say that quite 50% of small cultivators dig their trenches too narrow and too shallow, so that they are nearly ineffective. It is hardly worth while trenching unless those trenches are to be 2 feet deep, 2 feet wide at the surface and the sides sloping to 1 foot at the bottom.

It is startling, sometimes, to watch the growth of late suckers, after good deep trenches have been cut as compared to the growth previously.

Let those cultivators having late fields follow out these few suggestions and treat their fields accordingly. Or if they are doubtful, then let them do a portion as an experiment. They will find that not only will the suckers make up lost time, but also find that the crop besides realising the best prices the trade can offer, will also grade 20% better than formerly, and better grading is of more importance now than ever.

A. H. HOARE.

Bath.

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SOME AGRICULTURAL "IFS."

Written Specially for the Parish of St. Catherine by H. L. Mossman, Agricultural Instructor.

CORN.

IF greater care was exercised in the selection of seed corn, and 2 grains were planted in each hole, and not 5 or 6 as is frequently done, and if the land was previously forked instead of simply planting the corn by digging small holes with a cutlass in the hard ground, the result would be different. Try it, now is the time to prepare your land, fork thoroughly, and remember that the best time for planting fall corn is from the middle of August to the end of September. Plant in rows, 2 ft. by 2 ft. 6 ins. 2 grains in each hole, about 6 inches apart. It takes a little more time, but watch the returns,

PEAS.

IF a little more trouble was taken in separating the imperfect from the perfect pea grains, using only the latter, and if the land was properly tilled before planting, the yield would be increased 3 or 4 fold.

Experiment on this.

YAMS.

IF larger yam hills were dug than at present, and if, instead of boasting that you had planted 600 hills of yams, you planted 200 hills and planted them well, the returns would exceed your expectations. A yam hill dug 4 ft. in diameter by 4 ft. to 5 ft. deep, and 3 or 4 basketfuls of manure added, as well as a good mulch on top of the hill. after 2 or 3 good "bits" have been put in the hill, must give a better yield than the usual 2 ft. by 2 ft. hole, generally made by the boaster. 20 hills of St. Vincent Yam planted in this way last year by a careful cultivator gave 14 cwt. of yams which was sold at 10/- per cwt. Think of it, £7 for 20 hills of yams. Is your planting as profitable ?

SWEET POTATOES.

IF care was taken to plant 3 or 4 varieties of sweet potatoes, and at maturity to test the results of each variety, would you continue to plant the variety that gave you the smallest return ? How many people do this ?

COCOANUTS.

IF an expenditure of seven pence was incurred in furnishing a rat guard for every cocoanut tree, *i.e.*, a bit of tin nailed around the tree, funnel shaped at the lower end, to prevent the rats getting into the "house," and two pence extra for the purchase of 2 qrts. coarse salt to be tied in a bit of the "strainer" and attached to the heart or bud of the tree, the returns would be doubled, and in some instances quadrupled. Is'nt it worth a trial anyway ?

(To be Continued.)

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POTATO GROWING.

In the "World's Work" some time ago Mr. Eugene Grubb, a well known potato grower of Colorado, who is the author of a book on potato growing and who made a tour in Europe, gives his opinions of British farming. What impressed him most of all was the fact that Lord Rosebery grew 24 tons of potatoes on an acre at Dalmeny, near Edinburgh, on land which had been cultivated for a thousand years. Mr. Grubb says there are thousands of acres of land in the United States which have been worn out by bad farming, and he asserts that Great Britain is far ahead of America in Agricultural practice. He was surprised at the life of comparative comfort and dignity led by the farmer in the British Isles compared with his own countrymen. This success he attributes to care of the soil and seed selection.

The yield of Irish Potatoes in Jamaica is barely at the rate of two tons, exceptionally four tons to the acre. Why ? It is not the climate. It is the method of preparing the soil, lack of manure and the ways of dealing with the crop when growing.

After this was written the following came along :—

Potatoes.

From one piece of land 1½ chains in extent there were taken 43 barrels of saleable potatoes (Irish) weighing 160 lbs. net per barrel. There was only one barrel of unsaleable tubers.

It took 1¼ barrels to plant the piece. The owner has nearly two acres and expects to market 400 barrels. This particular piece of 1½ chains was an old cattle pen but was put under cultivation last year.

In preparing the land it was packed with Foxtail grass, then it was penned and cattle fed upon it for about a month. It was then ploughed and trenched and the potatoes were planted in the last week in March; since when there have been fine seasons. It certainly pays to manure land for potatoes.

J. T. PALACHE.

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A cubic foot of well packed silage, weighs from 35 to 40 lbs. on the average, and this is the amount which dairymen give daily to a cow of about 1,000 weight. At this rate one cow would consume 180 cubic feet (about 3½ tons) of silage in 180 days. A herd of 20 cows would consume 70 tons during the same period. Some allowance should be made, however, for waste and damage to silage.

A COLLEGE OF TROPICAL AGRICULTURE.

Ceylon is making a special bid for the establishment of a College of Tropical Agriculture in Ceylon.

The Circular of the West India Committee, the "London Times" and "Nature" hold that a suitable place for such a College would be some West Indian Colony. Trinidad thinks that the only spot suitable would be Trinidad.

Jamaica has not shown enthusiasm or even interest, as little has been said about this matter. Certainly Jamaica has not set forth its claims, though it is a far more suitable centre than Trinidad, in the way Ceylon has done in its own interest.

There has been a little book published entitled "A case for a College of Tropical Agriculture" being the report of a committee appointed by the Board of Agriculture of Ceylon, in which is made out a strong case for Ceylon.

Certainly Jamaica could not offer any one centre, with the accommodation and the establishment that Peradeniya in Ceylon has, nor are our industries so extensive as those in Ceylon. On the other hand we have a greater variety of products in Jamaica than are grown in Ceylon, commercially.

Our cool elevations are easy to reach from any part of the Island. Our uplands are mostly within an hour or less of the lowlands anywhere by horse, buggies or motors. Our Island is intersected by admirable roads which go right over the hills.

We are nearer the heart of the world than Ceylon; we are within 12 days of Europe and 4½ of the United States and Canada, with many lines of steamers running. We are in close connection with all Tropical America, and with the opening of the Panama Canal we will be brought nearer the East also.

If Ceylon sends out men trained there, over all the East and to East Africa, as she claims, Jamaica sends out men trained here all over Tropical America and also to West Africa.

It is a *sine qua non* that the colony chosen be healthy beyond reproach. Ceylon contends there is no country can challenge her claim in this respect. Jamaica can. This is a health resort with thousands of tourists coming every year for health and the pleasure of breathing our pure air and of enjoying the equable climate.

Ceylon has 100,000 acres under coconuts, 500,000 acres under tea, 186,000 under rubber, 47,000 under cinnamon, 43,000 under cocoa and 800,000 acres of other Tropical Products.

Jamaica ships appreciable quantities of the following :—Annatto, Bananas, Coffee, Cocoa, Coconuts, Divi Divi, Grapefruit, Limes and Lime Juice, Mangoes, Oranges, Pineapples, Ginger, Beeswax and Honey, Hides, Horses and Cattle, Kola Nuts, Pimento, Rum, Sugar, Logwood, Fustic, Bitterwood, besides numerous sundries We grow tropical products from sea level to 3,000 feet elevation. We have thriving towns at an elevation of 2,000 and 3,000 feet.

The Ceylon planters may be of higher average capacity in precept and practice than planters here, they have had better training for their work perhaps but our best are as good as their best. There are owners of plantations here whose forbears have lived here from generation to generation. There is a residential planter population in Jamaica. Families are born here, live here, are schooled here, and though those who can afford it send their families abroad to finish their education; still the nucleus of the attendance at a Tropical Agricultural College would be found here.

Thus it will be seen that Jamaica can make out a very strong claim.

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TOBACCO NURSERIES.

From the middle of August to September is the period to make nurseries and plant tobacco seed. Nurseries should be chosen and the soil turned over now. Very little care is taken in preparing Tobacco Nurseries as a rule. A piece of land is burned over (in this particular instance, preparing land fòr Tobacco nurseries, burning is a correct practice), and the seed sprinkled among the wood ashes without first preparing the soil thoroughly. The piece of land chosen for a nursery should consist of light soil and if not rich already should be made fairly rich by having some old cow or horse manure or leaf mould dug in. Leaf mould is made by sweeping up the fallen leaves underneath trees and placing them in a heap covered with earth. In six months there is a crumbly manure ready for use. In such special circumstances as a Tobacco nursery the greatest care should be expended, as good seed is otherwise largely wasted, as good plants cannot be raised on badly prepared land.

It is not realized yet, that half the battle in getting a good yield of leaf is in setting out sturdy healthy plants raised from seeds taken from the best plants only.

Then dry bush should be put over the soil and fired. This sweetens the soil, and makes the top layer of earth light and open; makes plant food available for the very fine seed of tobacco. The top earth should then be raked well to break up any lumps of earth and work in the wood ashes.

Beds should then be made and be levelled and firmed down with a board and the seeds sprinkled over, not too thickly or the tiny plants will grow crowded and spindly. Another light raking will slightly cover the seed and bring the soil in contact with it; or the seed may first be mixed with some fine earth and ashes, or where ants are troublesome, mixed with some cornmeal. The mixture should then be sprinkled over the beds. A rake drawn lightly over the beds will work the seed in nicely and the beds can be firmed down gently with a board. Ants are fond of tobacco seed, but they are fonder of cornmeal and will carry off the latter in preference.

The nursery should be made where water is handy for watering if the weather is dry. As heavy rains would wash out the seed, or kill the young plants when sprouting, it is better to place forked sticks along the beds, lay rails on them and thatch over the rails,

thus affording shade from the hot sun and protection from heavy rains. After the plants are grown 4 inches high, the beds should be *gradually* exposed to the sun and breeze to harden them, by taking off part of the shading. A little of it should be taken off one week, some more the following week and the remainder the week planting is begun. It is a great and a common mistake to handle young tobacco plants roughly, pulling them up from the soil instead of easing them up ; carrying them in bunches with their roots exposed to sun and breeze, thus drying them out, instead of placing them carefully in a large basket with some leaves or trash at the bottom, shading them carefully, and where water is plentiful and the time dry, pouring a little water in the hole as the plant is put in the field. Where water is not at hand and no earth has clung to the roots, it is a good practice to mix earth and water in a large pan, and dip each root in the mud puddle so made. The mixture sticks to the roots and keeps them moist when they are planted.

The planter taking such care, who meets with a dry time after planting can afford to be easy in his mind ; his plants will be safe. The planter who thinks so much trouble and care cannot pay, loses many of his plants in a dry spell, and the remainder do not grow strongly and luxuriantly.

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CORN.

There are several ways of growing coin, here, we do not say cultivating corn for the first way is not cultivation.

The most common way, the popular way is to clean land burn it over, make chop holes 3 feet apart with the hoe on the day of planting. 2 to 3 inches deep to 5 inches long, and 3 to 4 inches broad, liberal measurement. Such little holes on more or less hard ground are the seed beds for the 3 or 4 corn grains usually planted, to grow in. With good soil and plenty of rain the return is usually 10 to 15 bushels per acre. A short spell of dry weather affects such corn badly, as the roots have no room to spread and the moisture in the few inches of soft soil soon drys up. An improved way is to fork holes; it is not common yet, but is taking hold, and if done a month ahead, the clods turned up and allowed to crumble, it gives a yield of a half more than the first method. A still further improvement, is to fork rows in fresh land 3 feet apart, a month before planting, then make holes in the forked rows when planting. This method allows the roots of the corn to spread wider and deeper than planting in chop holes, so in dry weather they get larger supplies of moisture. This method gives still a half more yield than by the last method, and double more than by the chop hole way. The next method is to fork the whole field through and plant both corn and peas ; in good seasons, not much larger yield is got than by the last method but in dry weather there is a considerable gain. The roots of corn spread and the moisture in the soil is attracted. That is the way fine crops of corn are got when planted after a crop of ginger, potatoes and cassava are taken up ; the digging of these crops turns up the soil thoroughly and makes it fine and loose. Hence the roots of the corn can go as deep (though corn does not send roots very deep down) and

wide as they want and without hindrance; whereas in the little chop holes they meet with hard soil and cannot grow. The more roots and the wider they go, the more nourishment they can take from the soil. A yield of 40 bushels per acre should be nearer our average than 10 to 15 bushels, as it is now.

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PEDIGREE SEED CORN.

The following is the extract from the January, 1910 JOURNAL referred to on page 137 of the March JOURNAL, with reference to the importance of using carefully selected seed for planting:—

The JOURNAL having been persistently insistent on the necessity of procuring and planting good seed in every case, even if the cost be considerably more than the ordinary, I will here state for the benefit of others how this worked out with me recently. In August last year (1909) I saw advertised in the JOURNAL, by the Assistant Secretary of the Agricultural Society, pedigree seed corn grown in Jamaica, and some of it hybridised with imported American seed. I purchased three quarts and planted them at Barbican, lower St. Andrew, during the last week of August and the first week of September. The seeds were roughly planted and received little or no attention afterwards. Shortly after the corn sprouted in September there were several days' rain, and the young seedlings bounded upwards amazingly; but thereafter, with the exception of one shower in October, there was no rain until the corn was gathered. Everyone living in lower St. Andrew knows how dry it was during October, November and December. But notwithstanding this, the corn grew and flourished immensely, many of the stalks being 10 or 12 feet high. This, however, was the least surprising fact, for not only did the stalks grow vigorously, but each one bore two or three large, well-filled ears, so that from my three quarts I gathered a large crop—exactly how much I cannot say, for some of it was used green, and neighbours and friends helped themselves liberally, and I saved several hundred ears, some of which I intend to plant in March, and I shall be able to spare several quarts to any one desirous of trying this strain of seed. All this, of course, would not call for any comment beyond the fact that good seed produced a good crop in an exceptionally dry season. But when contrasted with what happened all around the neighbourhood in which the crop grew, I thought it worthy of some notice. What happened was this: Several persons in the vicinity planted the usual "country" corn which ordinarily yields a moderate crop but every field which I have seen, (and I have seen several) failed to reach maturity. In fact, so far as I am aware, not an ear of corn was produced in this locality except mine, although plenty was planted about the same time that mine was. So remarkable was this, that several persons, who saw the field from the road, and who had lost their crop, came to enquire how I managed to grow a crop in such weather as we had had. I told them the reason, and took advantage of the opportunity to preach a short homily on the importance of good seed. I think I have made a few converts in this direction, for I have received several applications for small quantities of seed corn.

Another point I would like to notice is the fact, that the bees worked incessantly on the corn during the flagging stage. This might or might not have had something to do with the ears being so well filled. It shows, however, that the corn is a good bee-forage, chiefly, I am of opinion, for pollen, as I do not think it yields much, if any honey. I am aware of the peculiar manner in which corn is pollinated, and I am, therefore, doubtful if bees can help much.

Henceforth good seed, even if dear—or rather high-priced—for any crop, shall be my shibboleth.

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HOME MADE STICKY FLY PAPER.—Boil together a pint of molasses or thick honey, half a pint of linseed oil and a pound of resin. Cook for thirty minutes and stir the mixture often. Spread it thinly on common brown paper and spread another sheet on the first one. Continue laying these double sheets until all the mixture is used. When you want to use any of it cut off a piece and pull the sheets apart.

But it is easier and better to use Formalin in water.

SEASONABLE HINTS.

SEASONS.—We had most favourable seasons during April and May for all crops; in the centre and south there was a pinch of dry weather in June but towards the end of the month good rains put the crops on the south side safe, except the April planted corn which has mostly been a failure in St. Elizabeth; and on the last night of the month there was a splendid rain which made crop prospects very bright.

July is a dry month as a rule. It is then time to prepare for the second great planting season of the year which is from the middle of August until the middle of September. Districts of the Island differ in that planting may be done earlier or later when there is plenty of rain, but as a general rule the very best results are got by planting during the period stated, if rain falls, as it usually does.

July like February is usually dry from beginning to end, but the weather is always expected to break in the second week of August if not a little earlier in that month.

PREPARATION OF LAND.—For Corn and Guinea Corn, Peas and Beans of all kinds (whether bush or climbing) Cotton, Sweet Potatoes, Cocoes, Yams, and in the mountains a fresh crop of Irish Potatoes and vegetables, prepare the land in July. It is a common fault to wait until planting must be done at once and then rush to break the soil roughly, and the seed is planted in clods. Turn over the soil roughly in July; let it lie in the rough to weather; when rain falls on it, the soil will then crumble at a touch almost. Refine it then and have it lying in a fine state by the first week of August ready to be planted on the first good soaking shower.

PLANTING.—When planting do not drop a handful of seed in the hole or furrow. Firm down the seed or plant when planted. Do not put young plants like cocoa and coffee in the soil deep. Barely cover the top roots, and if you do not firm the soil around the roots the plants will sink as the soil settles. It is usually better to plant, leaving the soil filled into the hole a little above the surrounding level. Note how all the self planted trees, that are grown from seed, have their top roots nearly clear of the soil. A plant with its roots deep in the soil may grow a few years, but it soon struggles for life; usually the neck rots, and the top dies back. At any rate young trees planted deep in the soil never grow satisfactorily.

CORN.—Plant only the best seed to be got. Read the articles on Corn in this JOURNAL. Plant not more than three grains and if you are sure of your seed being good, two will do, in holes 3 feet apart each way. Careful experiments are still required to test whether two seeds to a hole, 3 ft. by 3 ft., or 4 ft. by 2 ft. and other distances give best results. Do not plant the two or three seeds close together in the hole, it pays to take time to keep them separate.

COTTON.—The Agricultural Society intends to plant 10 plots of one acre each in S St. Elizabeth and S. Manchester to test the prospects for a new industry there, as cotton has done very well in Vere which is even drier. We have imported, through Mr. Conrad Watson who has grown cotton continually and with profit from 1908, some Sea Island and Egyptian Cotton seed in order that we may thoroughly test

both, as although we have done well in Sea Island Cotton, there are certainly some districts at least (from former tests) where Egyptian may do better. Read the article on Cotton in June JOURNAL. Plant three cotton seeds and take time to keep the three separate, so that the plants may not grow close together. When they grow this gives the selection of the fittest of three to be left, and two can be taken out without interfering with the one left.

CROPS.

CORN.—Early planted corn, up to the March corn, was safe by the middle of June, but the April and May corn suffered badly from a pinch of dry weather in June. Dry weather usually commences in the middle of June, lasting on through July, so it should have been expected. The rain at the end of June just saved this late planted corn from dead failure. Corn will be plentiful by August and be back to normal in price. At present the young corn is a blessing for food. Eight green cobs have been selling for 1½d. ; cheap food.

PEAS.—Seldom have seasons so suited the growth of peas. As large plantings were made all over of Kidney Beans, Black Eye Peas and Cow Peas, and in districts where peas were not usually grown to any extent the results have been very abundant returns, so that peas and beans are at present unusually cheap, viz: 4½d. a quart retail and even less at times, in some districts 3d. As these are substantial foods, plenty should be used in the house and plenty stored for use later. In August plenty should be planted again.

BANANAS.—The fine seasons have favoured the growth of bananas so well that many are fearing that their fruit will be in too early for the spring. But everyone should bear in mind that the winter, the cool weather, may come in early; last year it was late, and there is always the chance of a "Christmas chill." Whenever there is a blizzard in the North, and Florida has a freeze, we know it here, as we get remarkably cool, and in the nights cold weather, for a few days. Bananas are quickly affected by this and the effect lasts for two months or more. They simply stand still.

Those who cut back after November and left ratoons over knee high, will likely be early if these fine seasons continue, but we hardly think plants will be any too early. Wherever two suckers have been left, if they are not stout, and promising in every way to make a good bunch, one should be cut out even at the risk of being early. If the banana tax is imposed as is proposed, it will be the duty of every banana grower to get only as large a proportion of bunches as possible by confining his efforts to the best land and only cultivating what he can do to the best advantage. Almost every grower plants more than he can look after and cultivate well. Read the article in this JOURNAL on "Late Bananas."

So quick has been the growth of bananas that shipping commenced six weeks earlier than we estimated in certain districts. Of course in St. Thomas, Portland and Lower St. Catherine, the storm did not affect the bananas very much and shipping has been going on as usual there. In Upper St. Catherine, St. Mary and St. Andrew, shipping is now going on but only small quantities compared to normal, and the fruit is often short fingered, the effects of the

shaking of the bananas in the storm and the breaking of roots. Those who have not filled up between their bananas with Cow Peas, or where a crop of peas has been reaped and not cut down as a mulch, should still try some in August if the shade is not already too heavy.

SWEET POTATOES.—As this is an easy and quick crop to grow, large plantings were made after the storm and good crops are in now at normal prices. More should be planted in August and September, and will come in from January to March next.

IRISH POTATOES.—Never at any time in Jamaica has there been more of these potatoes grown. Being the quickest food crop that could be grown, a large number grew them for the first time and owing to the good seasons, good crops have resulted; and in a good many cases where fallow land or manure was used, there have been large crops. The trouble is, that every grower wants to sell at once, and the local consumers cannot take all. The marketing of 4,000 to 5,000 barrels of potatoes locally should be spread over six months.

In the hills and for home consumption, a small crop can be planted in August.

GUINEA CORN.—Because we have had good seasons, the planting of Guinea Corn has fallen off. But no one in the dry districts should trust to present good seasons being continued, and everyone there should plant Guinea Corn. August is the best month in the lowlands. We have six varieties in stock.

BROOM CORN.—This grows like Guinea Corn and the seed can be used for feeding fowls and from the tops, brooms are made. See article in March JOURNAL.

SEEDS IN STOCK.—We have Seed Corn, Guinea Corn, Kaffir Corn, (red and white) Doura (two kinds) Jerusalem Corn and Broom Corn in stock; also Cow Peas, Black Eye Peas, Overlook Beans, Bengal Beans, Castor Oil Seeds and a few kinds of vegetable seeds in stock, but we do not keep a full assortment of vegetable seeds in stock during the summer. We have Slug Shot, to kill caterpillars in fields of cassava and cotton.

Bi-Sulphide of Carbon for killing weevils in grains can be had at the Government Laboratory as advertised in this JOURNAL. Paranaph can be had wholesale there in 50lb. drums at 2d. per lb. in smaller quantities at 3d. per lb. from the Hardware Stores.

PESTS.—Rats, Fleas, Ticks and Flies are the especial pests we should always keep fighting. There never was a time when it was made easier to tackle them, but persistence is required. For rats—terriers, cats, traps, poison and change your poisons and change your baits every now and then. For fleas use Paranaph. For Ticks use Paranaph and Cooper's Dip. For house flies, use Formalin in sugary water as a bait. Give no quarter to all such pests.

———:o:———

STAINS.—To remove grease from garments, dissolve a tablespoonful of salt in four tablespoonfuls of alcohol, shake well and apply with a sponge. Coffee stains may be removed from the most delicate silken fabric by brushing the goods with pure glycerine, and rinsing out afterwards with warm water. Glycerine possesses the properties of absorbing both the colouring matter and the grease.

STOCK NOTES.

BLISTERING OF HORSES.—Blistering is of great service in cases of capped hocks, windgalls, slight sprains and swellings on bones from knocks; and a blister may be used to hasten the breaking point of an abcess, so that it can be opened sooner; also in cases of laryngitis, when a blister is used on the throat.

When a blister is to be used on the legs, it is cruel to do all the four legs at once; two should be done at a time. Allow a month for the effects of the blister to disappear and the hair to grow again. Anoint with oil, or use the White Lotion so often mentioned in this JOURNAL to soothe the skin and help the hair to grow again.

ANTHRAX.—When there are cases of cattle dying suddenly, that is without having been observed to be obviously ill, even though under observation and if from the orifices of the carcass,—the nostrils, mouth and anus, dark blood is seen to be oozing, Anthrax may at once be suspected.

The carcasses should not be handled at all, but be burned if at all possible, if not, buried. When they are buried the carcasses should be pushed into the hole dug, with a pole, which should be immediately burned; lime should be heaped in and the hole filled and fenced round. All the cattle should at once be removed from that pasture and close observation kept up.

If a beast is seen suddenly to leave the others and go off by itself and look drooping, it should be taken off to a place apart from all stock, and closely watched. If it lies down and dies, showing the same symptoms as the other which died, the carcass should at once be burned or buried in lime, and a telegram sent to the Director of Agriculture, Kingston, and the local Sergeant of Police notified too.

The Contagious Diseases Animals Law, calls for this action. The Government Veterinary Surgeon will then visit the place, report upon the disease and if necessary take the steps provided in the Law to stamp the disease out and prevent infection.

But the Government Veterinary Surgeon cannot be called upon to visit any place simply on the report that a few cattle have died on an estate. There are nearly always breeders of stock nearby, who are fairly familiar with the more common diseases and one of them should be consulted. A full description of symptoms should be sent up.

MILK. Hygiene and cleanliness begin at home. Most people will say they are clean, and like clean things to eat. Yet 90 per cent. of the cows milked in Jamaica, are milked with dirty udders by dirty boys, with dirty hands; often boys with disease on them. Yet the owners of the cows complacently drink this milk and with easy consciences sell it to others to whom all milk is milk.

We ourselves made it a strict rule that the milkers should wash their hands and the udders of the cows and goats with clean water which had a pinch of Permanganate of Potash in it. And of all the injunctions, precepts, orders and commands that were so often disobeyed, disregarded and forgotten by boys this we found was one law that was the easiest to be carried out because milking was a regular every day job. It is the odd jobs that are so hard to get done according to rule and system.

CALVES. *Those who are bringing up calves by hand should* see that the animals do not gulp down their milk too quickly. This is a frequent cause of looseness of the bowels and scours. At anyrate the animals do not thrive as they might do, as they do not get the full benefit of the milk. It needs patience and takes time to use the hand in the milk, and boys complain that their hands get sore from the rough tongue of the calf. Get a round piece of wood nearly the size of the pail, cut a circle out of the middle enough to let the calf's nose through, and place this in the milk, and see how it works in making the calf take time. Even two pieces of wood placed in the milk causes the calf to take time. But the wood must be washed each time after using.

Where many calves are being raised, patent "Calf Feeders" are used with rubber nipples, the calf sucks his milk through this from a pail.

DOGS. In a land of perpetual summer, with no winters cold to kill or at least check the increase of such animal parasites as fleas, these pests have always favourable circumstances to be abundant if man does not prevent them. The lives of dogs especially are made miserable by fleas, more than all other animals because they frequent the spots where fleas find opportunity to lurk and breed; the dust of the yard, underneath houses, the floors of houses where the cracks are generally filled with dust, form a sutable breeding place for fleas.

Everybody should keep Paranaph and once a week at least wash or spray the dogs, and if a teaspoonful of sulphur is put in the dog's food twice a week, this will help to make its skin not agreeable to the taste of the flea.

The floors of houses should be washed with Paranaph regularly.

We carried through a test lately on a house dog, that seemed more than usual infested with fleas, and these pests seemed to return a day or two after the wash in as great numbers as ever. We gave a teaspoonful of sulphur in the dog's food each day for a week, in case too constant scratching was a symptom of mange coming on, as seemed likely and we rubbed, the skin with the finger tips, with the following mixture, not plastering on the hair as many do carelessly but rubbing into the skin. This must be done thoroughly to be effective :—

	4	Tablespoonsful	fine Lard melted.
add	1	,,	fine Flowers of Sulphur.
,,	1	,,	Kerosene.

Stir well. When cool, this makes a paste or ointment very useful to have on hand.

Wash the dog well first and rub the ointment into the skin. This ointment will keep fleas off for a long time and if it is well rubbed into the skin, as directed, the dog does not get plastered with dust and dirt as would be the case when the mixture is only rubbed *on to* the hair

Dogs are useful as ratters, mongoose killers and as watch dogs. They are part of the establishment. See that they are fed well and regularly. If you cannot afford to feed a dog, sell it.

PIGS. Cases of pigs losing the power of their hind legs have come before us. If the back is also weak, these are signs of the not uncommon malady called "Kidney Worm", which is practically incurable, but may be treated by giving small doses of Turpentine in Oil. But nearly the same symptoms may be caused through the pig getting a blow over the rump with a stick or stone. Rest and time will cure this weakness, if no rupture of any organ, the kidneys especially, has been caused, or hurt to the spine. Rubbing in a good embrocation like "Elliman's will help.

When there is Rheumatism or Cramp caused by exposure to damp, having to stand or lie in muck through heavy rains often causes this. To treat, give a sheltered, comfortable run, where the animal can shelter from rain and sun if it pleases, but may lie out in the sun if it likes. The hot sunshine baking upon the sore or swollen parts, like the joints, is one of the best cures. Bathe the weak parts with hot water or spray hot water on them, rub dry and rub in some Embrocation. Give plenty of green food and fruit, but no corn, and plenty of charcoal. A dessertspoonful of sulphur in the food (this is the dose for a medium size of pig) will help, A good "Condition Powder" containing Iron, Sulphur and Charcoal etc., is a good medicine.

GOATS. These animals cannot be run too thickly, or the land becomes, for them, "goat sick." Over and over men have taken up goat rearing and the animals have been very profitable during the first two years. so long as the flock was small and the run large. But whenever these animals were obliged to feed over the same ground without its resting, they began to fall away and do badly.

They are most particular animals in many ways, and will often refuse to eat apparently good feeding, because it has just been touched by a goat previously. Again when not changed from pasture to pasture, so as to allow the feeding to be renewed, they eat out all the best plants (to them) until these are killed out, and then have to begin on herbage not so palatable to them. Then later they have to fall back upon third rate (to them) forage.

Those who take up goat raising on a fairly large scale must subdivide their runs.

Look out for lice on the goats during the hot weather. It is a sign that lice are present when the goats repeatedly turn round to scratch themselves or eagerly rub themselves against fences and posts. Spray or wash with Paranaph.

In wet districts and on clay soils, goats sometimes suffer from foot rot, though not so much as sheep in this respect, probably because goats are not kept in flocks in wet districts, and penned in a mucky pen, as sheep often are. It is the wet muck that usually causes the foot-rot. There was a good remedy for foot-rot in last Journal—Bordeaux Mixture and the hoofs saturated with it. But ordinary fine white lime dusted in, is usually effective, or put some lime thickly on the floor of the pen so that the goats must stand in it.

We have many enquiries for good billy goats, but the enquirers usually omit to state whether they want animals for mutton purposes or to produce milkers. Mr. Charles B. Wright, Woodland, Cross Keys P.O. in S. Manchester states that he has three young billies three months old in June. Their grandmother was the

progeny of the first billy imported from England by us for the South Manchester Branch, and they were sired by the second billy brought out by us for the same Branch—an Anglo-Toggenburg.

DRENCHING. Again we warn our readers to be careful in drenching and giving liquid medicines to animals.—Very many beasts are killed through the drench going down the wrong way. People know, but do not stop to think that there are two pasages into an animal from the mouth—the gullet which leads down into the stomach where a drench should go, and the windpipe leading to the lungs into which if anything but what is meant to go, and that is fresh air, goes, especially irritating substances, congestion of the lungs must follow and then the death of the animal. Often an animal that has a husky cough is treated for a cold, and if a cow as it pines away the trouble is thought to be tuberculosis, or if a horse, is treated for indigestion on the top of the cold; and the cause of the trouble is careless, stupid drenching. The moment an animal coughs in being drenched, let the head go. Give the drench little by little.

WORMS. No beasts need go suffering from worms long now-a-days, certainly not the stock belonging to the readers of the Journal.

Thymol powders which can be fed in corn to horses, in this food can be had here or at our advertisers Messrs. E. D. Kinkead & Co.

These powders are prepared at the Government Laboratory, Hope.

DONKEYS. My attention was recently drawn to a donkey suffering from what I was told is commonly known as 'Donkey's ear itch' which appears to be a highly irritating parasite and was causing the poor little donkey's ears to hang right down over its face and evidently giving the poor little beast intense pain. I recommended washing *the ears with a 3% solution of Pattinson's* Tick Wash, and drying the ears properly and afterwards dusting them with Boric Powder.

I saw the animal about a fortnight afterwards, when I saw that my prescription had succeeded even beyond my own expectations, the change brought about in the appearance of the animal was such that I hardly knew it. The ears had assumed an erect position and the change in the general health of the beast was little short of wonderful.

I am told that this disease is a common one and accounts for most of the earless donkeys that we see throughout the Island. The remedy is simple and cheap enough.

W. CRADWICK,

Agricultural Instructor.

PESTS ON FOWLS. The number of stories we are told by visitors to this office, and the number of experiences we hear in our travels, make us doubly anxious that all who keep stock of any kind should read this JOURNAL. The cruelty perpetrated through ignorance is appalling.

We heard of a hen that had set on eggs until "fowl lice" had eaten into the flesh around her eyes and through the skin on her

breast. It was only when it was thought she had not been seen off the nest for a few days, that she was found nearly dead—and of course soon died. This seems to us like the torture applied in parts of Africa. The victim is stretched on the ground and pegged down near an ant hill and smeared with honey or some sweet stuff. The ants soon find the feast and leave a clean-picked skeleton.

Some such cruelty goes on in all lines of stock—through *Ignorance.*

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POULTRY NOTES.

The hatching season is over now, generally speaking. In these hot months, the hens, having been laying since the beginning of the year, are not in good condition now, as early in the season; their eggs are not so fertile, nor the embryos so strong and it is well to stop off setting from June. Those however, who are only hatching for a succession of table fowls for home use, can make a few settings in August and September, just before the hens go to moult.

This is usually a trying time for young and half grown chickens in the lowlands, save where there is plenty of nice shade and abundant water at will.

WATER. Be sure and replenish the water vessels at least twice a day, morning and afternoon; better also to do so at noon. Clear, cool, water is essential if you would have healthy chickens. It is useful also at this time to put a teaspoonful of sulphur in the chickens food twice a week, that dose for twelve half grown chickens. It will help them to feather and clear their blood. Put Epsom Salts in the water once a week, a dessert spoonful to a quart of water. The dose is regulated by the drinking capacity of the fowls; chickens drink less than hens.

FOOD. A common mistake in feeding is to fling the food down thickly in one place; never do so, scatter it far and wide over grass or trash, so that the birds, large or small, take time to pick it up, must scrape for it. It is a maxim in poultry rearing to keep the fowls busy.

Another error is not regulating the quantity of food. Fowls are fed at random; they get too much or too little, seldom just sufficient. Yet nothing is easier than to know how much food must be fed. So much per dozen or score of fowls is not very accurate. The nature of the run that fowls have, must be taken into account. Some fowls have a free run, go where they like and may pick up large numbers of insects and grubs. Or there may be a large number of fowls which have only the chance of getting very little to pick up, because they do not take advantage of the room to wander. In a confined space fowls must have scratching stuff—grass or a manure heap to scrape in. A good general rule is to catch up a fowl and chicken every morning after feeding, and feel their crops. If they are half full or a little more, that is enough. If they have a large run they need no more until the afternoon, when the grain can be fed at 3.30 to 4 o'clock. Taking one or two birds at random or those which are observed not to be the greediest, and feeling their crops, will prove whether they have had enough. After the evening feed the crops should be completely full, but not tight as a drum, with food.

LICE. In the hot weather, insect life is most rampant. The pinch of sulphur in the chickens food, helps to keep of insects. The roosts should have their ends touched with the lard, sulphur and kerosene mixture, or with Paranaph. The same mixture (lard, &c.) anointed on the back of the head, underneath the wings and on the rump of fowls, (where the oil gland is) will keep off lice.

All fowls should be inspected now for lice; there are three varieties common on fowls and all cause trouble if plentiful. When fowls roost on trees it is not easy to get them handled. They should then be caught while feeding in the evening. A dusting with Sulphur or Insect Powder can be done by those who will take the trouble. The powder must be thoroughly dusted into the feathers.

INDIGESTION, Yaws and Roup are the most common troubles in chickens. It is not possible to rear chickens satisfactorily running among old hens. The chickens pick up large grain, and get pecks on the back of the head, which if vicious or repeated often, makes them double up, look sickly and die. Picking up large grains, like corn or oats gives the chickens indigestion. There should be separate coops where the chickens can be fed. These save their cost many times over. When the crop of a chicken is stuffed up and the food won't move try first a half teaspoonful of water and a small pinch of Bi-carbonate of soda, an hour later try a half teaspoonful of sweet or salad oil, and knead the crop gentlyafter both doses. This generally will move the contents of the crop, but if not after a day or night, repeat another dose of both.

In extreme cases and when one can do simple surgery, and if the chicken is of particular value. take a fine pair of scissors, clip off the feathers or down on the top of the crop, cut open the fine skin underneath, turn the bird over and gently squeeze out the contents of the crop, or take a small spoon and scoop the contents out; put in a little water just coloured pink with Permanganate of Potash, let this run out, and then sew up the outer skin of the crop with fine thread, oil the stitching and put the chicken by itself. Feed only a little soft food for two days and then let the bird run.

A scour of Epsom Salts once a week will ward of indigestion in the stomach or bowels.

Tonic or Condition Powders, the best of which contain Charcoal, Iron, Epsom Salts, Sulphur etc., are sometimes of good use.

YAWS are well known. We have described the cause and treatment over and over. Give Epsom Salts in the drinking water, paint the eruptions with Tincture of Iodine twice a day for two days, then anoint with the Lard, Sulphur and Kerosene ointment.

ROUP is the worst trouble to handle when it gets through a flock and becomes virulent through not having been noticed in time. A few chickens can be treated easily, but when this trouble gets in a large flock, it is a very troublesome job to get the birds better. We shall treat this at the request of several correspondents] and enquirers, next month.

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Boil in the skin till soft several green bananas. Peel, cut in 2 inch lengths, and at serving add to stewed beef, minced beef or such dishes.

COMMENTS.

Ticky-Tickies.

It is curious how little city people really know of the country and its plants and animals. A great many people too, know nothing whatever about objects, animate or inanimate that, are very familiar to others. There are many people in Kingston who do not know what Ticky-Tickies are ; and in some parts of Jamaica, some people would not know what Ticky-Tickies meant but would know what Bangoes mean. In Barbados they would not know what either meant, but would know what "Millions" meant; not referring to millions of money, or millions of anything else, because "Millions" is the name of a little fish common in marshes and ponds, which eat the Larvae of the Mosquito.

In Jamaica this little fish is called Ticky-Ticky or Bango.

Mosquitoes as most people know, lay their eggs on the surface of stagnant or quiet waters ; these eggs hatch into little wrigglers, so commonly to be seen in pools of water ; you can see them in water barrels, or in tanks and ponds ; these develop into mosquitoes. If you have a water barrel well supplied with wrigglers, and you drop two or three of these little fish into the barrel, you will see how quickly they will eat up the wrigglers or young mosquitoes. Now that the hot season is on, if there are rains there will be mosquitoes, and everyone who has a pond or a tank should get some of these Ticky-Tickies and place them in the water.

Rubber.

Mr. Wates, Agricultural Instructor for Eastern Portland and Eastern St. Thomas, recently carried through a tapping test of Castilloa rubber trees at Koningsburg, St. Mary, belonging to Sir John Pringle ; Rose Hall, St. Catherine, belonging to Hon. Dugald Campbell ; Burlington, Portland, belonging to Mrs. Miller ; Retreat, Portland, belonging to Mr. L. A. Isaacs.

170 trees were tapped which gave an average of $5\frac{7}{10}$ oz. of latex, at a cost for collection of slightly under 5d. per lb. It is also to be taken into account, that these trees were not tapped in the early morning when the latex flows most freely, when probably much better results could be obtained.

Mr. Wates also made a tapping test on 160 trees in Portland last October, mostly growing under adverse conditions. The yield there averaged $4\frac{5}{12}$ oz. of rubber, and the cost of collection was much the same. All these trees in these two tests, were of different ages, from 7 to 12 years.

The tests of these trees were also carried out at the poorest time of the year for good yields ; that is, when the trees were in blossom or beginning to seed.

These results are therefore very good, and if trees yield the same on three tappings per annum, the likelihood being that they will do better in September to October and January to February, and if the bark heals quickly, so that tapping can be made on the same place in two years, the growing of Castilloa Rubber even at 2/6 per lb. would be very profitable, when it can be grown where neither coconuts nor bananas will grow well, on poor clay soils. There need never

be a coconut nor cocoa tree less; Castilloa Rubber would be an additional crop. And we do want to be as independent of bananas as possible.

Error.

On page 28 of the JOURNAL for June, the 7th line from the bottom, occurs the sentence "But in St. Mary very little cocoa is grown." The word St. Mary should have been St. James. Every one knows that St. Mary is our chief Cocoa growing parish. The parish of St. James grows little.

Omission.

The paragraph in Stock Notes, page 41, of last JOURNAL *re* cure for foot-rot in Sheep, should have had Mr. W. Cradwick's name affixed. He is the "I" of the paragraph.

Cotton Seed.

We have laid in a supply of Sea Island Cotton Seed and a variety of Egyptian Cotton Seed called "Sakelarides," which has become famous for yield and quality. Both lots of seeds were selected and sent by the Imperial Commissioner of Agriculture for the West Indies:

The Sea Island Seed is from a field which yielded 320 lbs. of lint per acre of the best quality. This seed has been hand selected.

Cotton Growing.

The Board of Management had decided to carry through experiments in growing Sea Island and Egyptian Cotton in what have come to be called the "drought stricken districts"—South-east St. Elizabeth and Southern Manchester. The object is to make a test of the growing of cotton in different kinds of soils, and at different elevations there, as well as to secure some more definite knowledge as to the yields in these districts; and make a comparison between the Sea Island and Egyptian varieties, or of one variety of Egyptian at least, as there are several. The experiments will be one acre each in extent, 5 in St. Elizabeth and 5 in Manchester. The Instructor, Mr. E. J. Smith, will carry through the experiments, and Mr. Conrad Watson will pay occasional visits with the Secretary, to advise as to methods.

Instructors.

The Instructor for North and Central Manchester and St. Elizabeth, Mr. J. T. Palache, is no longer fit for the strenuous and active work required of an Agricultural Instructor and will relinquish his position on 30th September. This district is very extensive one and an important one, extending as it does from Malvern in South Central St. Elizabeth north to the borders of Trelawny, and from Pratville in Southern Manchester north to Craighead, 6 miles beyond Christiana; and from Porus on the border of Clarendon west to Ipswich.

Journal.

With this number of the JOURNAL, the second issue by our new printers, we expect to be up to time.

Holidays.

With the summer comes the time when holidays are taken abroad. The Hon. Director of Agriculture and Mr. Robert Craig, members of the Board of Managament left by the same steamer for the United Kingdom on 3rd July.

Prize Holdings Competition.

The judging has been arranged as follows:—

St Catherine, September; St. Thomas, January; Portland, February: Trelawny, March.

The exact date will be advised to Competitors later.

Entries for St. Catherine should be made before the 20th of August.

Shows.

Shows are being arranged to be held as follows:—

Porus (Manchester)	December	4th
Sav-la-Mar	January	1st
Rio Magno	January	8th
Chapelton	January	1st
Stony Hill	January	,,

We feel however that no shows should be held this year. With the best of weather and good crops, the country cannot recover so quickly for people to have money enough to attend shows. The desire to hold a show is praiseworthy, but there must be every prospect of success—plenty of Exhibitors with good exhibits, and a good attendance.

Coconuts.

Mr. Wates, the Agricultural Instructor for E. Portland and E. St. Thomas, has for two years been calling attention to a form of disease in coconuts, which was called locally Pencil Point, or Dwindling—very descriptive names. This disease has spread rapidly during the last six months and this was at first thought to be through the effects of last year's drought and then the storm of November last; but Mr. Wates called attention to the fact that it was common in Plantain Garden River district, where there had been no appreciable drought and no appreciable storm to affect coconuts. Mr. Cradwick has also called attention to a similar disease affecting coconuts in his district which has destroyed many fine trees. Specimens of the leaves have been sent to the Microbiologist, and now the disease is thought serious enough to be brought under the Infectious Diseases of Plants Law.

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No. 80. 11th June 1913.

The Governor directs the publication, for general information of the following Declaration and Rules with regard to the Leaf dieback disease of Cocoanuts:—

The Governor in Privy Council has under section 2 of the said Law 35 of 1911 declared the "Leaf dieback disease of Cocoanuts" to be an infective disease within the meaning of the Law,

F. L. PEARCE,
Clerk Privy Council

6th June, 1913.

The Governor in Privy Council under section 3 of the said Law has made the following Rules for the treatment of the "Leaf die-back disease of Cocoanuts:"

Rules.

1. In these Rules "Disease" means the "Leaf die-back disease of Cocoanuts."

2. Leaves affected by disease shall be cut off at a point well below the diseased region and collected and burnt and the inner leaves sprayed with Bordeaux mixture.

F. L. PEARCE,
Clerk Privy Council.
6th June, 1913.

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BRANCH NOTES.

Porus (Manchester).—The monthly meeting was held at the intermediate school room on the evening of June 2nd, 1913. The President occupied the chair. The minutes of the last meeting were read and confirmed, as arising out of the minutes the Secretary was instructed to write to the Parent Society informing them that this Branch intends holding a show in November of this year and ask that a grant be made to the Branch. The Chairman in welcoming the Instructor who was present spoke of the benefits derived from his demonstration at Munrod's Pond on the evening of that day, and expressed his wish that the school children who were present at the demonstration may realize the usefulness of such a visit. At this stage a discussion arose in regard to reports not appearing in the JOURNALS, when Mr. Esson suggested that Mr. West be asked to send up these reports. The Rev. Mr. Sommerville then enquired whether this new appointment meant that the offices of Secretary and Assistant Secretary were to be dispensed with and he was answered in the negative. The Secretary here gave notice of his resignation to take effect on 7th July. The Chairman again made mention of the Show and asked that a meeting of the committee be called on Monday 9th of June to make definite arrangements. Mr. Palache here opened a subscription list and headed it with 21s. The president was asked to attend the half-yearly general meeting of the Parent Society and consented. Mr. Esson here asked whether or not castor oil beans could be cultivated at a profit, but the Instructor pointed out that he would not recommend this venture, but he would encourage them to do some planting for home use. He also promised to give a lecture in cattle rearing next meeting if he is in the parish. The meeting adjourned till July.—A. S. ROSE, Secretary.

Cambridge Woodford (St. Andrew).—A meeting was held on the 5th June, 1913. There were present Messrs. R. Nelson (vice-president) 10 members the assistant Secretary and the Secretary. Mr. E. Brown, a visitor, was present. In the absence of the President, the vice-president occupied the chair. After prayer by the Secretary, the minutes of the last meeting were read and confirmed. A letter from Mr. J. Barclay, Secretary of the Parent Society, *re* the removal of Mr. J. Briscoe, Travelling Instructor, to a new district and of the promotion of Mr. A. P. Hanson and his appointment to the district of St. Andrew and Western St. Thomas was read. The meeting expressed regret at the removal of Mr. Briscoe. The secretary then moved the following resolution:—"That in view of the withdrawal of Mr. J. Briscoe, Travelling Instructor of Agriculture from the district of St. Andrew and Western St. Thomas to the newly-formed district of St. Elizabeth, and parts of Westmoreland and St. James. The Cambridge-Woodford Branch begs to place on record its appreciation of the good work done by him, and to convey to him its regret that important work in the new district has made it necessary that he should be transferred. "This branch appreciates him for his devotedness to duty and for his friendly attitude to all classes. The Branch wishes him continued success in his work, and that good health may attend him and his family." "A copy of this resolution be sent to Mr. Briscoe and another to Mr. Barclay." This was seconded by Mr. D. A. Smart and carried unanimously. The secretary informed the meeting

that this is the yearly meeting and that he had hoped that Mr. Briscoe would have been present, but from conference with him on last Friday he found that business would call him away during the earlier part of the week and that he hardly expected to have been back in time to attend this meeting; and, that he could not attend on any other date during June. This being the case the yearly meeting could not be postponed any longer. A list of the members in good standing during last year was read. Mr. R. Oliphant introduced Mr. Charles Brown of Maryland and asked that he be enrolled a member. He was heartily received. The yearly report together with a financial statement of the Branch was read. A vote of thanks to the Secretary was moved by Mr. D. A. Smart seconded by the vice-president and unanimously carried. Mr. E. E. Dickens suggested the presentation of a purse to the Secretary. The meeting agreed. Mr. Moodie mentioned that of late no notes from this Branch appeared in the journals. The Secretary said that the fault was his, and that the late Show was largely responsible for the omission. At this stage it was announced from the chair that the officers' time of service had terminated, and a call for a new election was made. The chair was vacated and Mr. Clare was asked to preside and conduct the election. The Rev. S. T. A. Jones was nominated President by Mr. W. Moodie, seconded by Mr. R. Nelson and was unanimously re-elected. Messrs. R. Nelson and A. Linton were nominated vice-presidents by Mr. D. A. Smart, seconded by Mr. R. Oliphant and were also re-elected. Mr. Clare refused nomination as Secretary. Mr. Smart consented to be acting secretary, and as such was named by Mr. Nelson, seconded by Mr. Moodie, supported by Mr. Barnes and agreed to. Mr. Nelson vice-president was now called to the chair. A committee consisting of the President, Vice-president Nelson and the acting Secretary with power to add to their number was appointed to receive books, moneys, etc. from Mr. Clare. It was agreed that the next meeting should be held as hitherto at the residence of Mr. Clare. Mr. Clare was asked to prepare the notes and transmit them. The meeting adjourned.—R. A CLARE, Secretary

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Upper Metcalfe (St. Mary).—The monthly meeting came off on Thursday 5th June, in Brainerd School Room. There was a large turn out of members and visitors. The presence of the ladies helped the spirit of the meeting. In the absence of the Chairman the Rev. Hastings was called to the chair. After prayer the minutes of the last meeting were read and confirmed. Correspondence from the General Secretary re representative to half-yearly meeting in July came up for discussion. After which it was moved by Mr. John Simmonds seconded by Mr. Simeon Taylor and carried unanimously. "That in view of the fact that many persons who suffer from the depredation of prædial thieves have had to lose time and money in order to secure the conviction of such thieves when caught. Be it resolved: that the Parent Society be asked to use its influence in urging that the Government pay the owner of the stolen goods for the time spent in securing the conviction. The authorized persons reported on their work during the past year. All reported that they had secured convictions. Mr. S. Morrison complained about the difficulties which he encountered from the want of handcuffs. The Chairman took the opportunity of speaking on the duties of authorized persons. His remarks proved of great benefit to the men present. Mr. Vadab Johnson was nominated an authorized person for Lucky Hill. The Secretary was instructed to write and inform the general Secretary. The Secretary was asked to write to Mr. Barclay with a view of procuring on behalf of the Society two or three barrels of good white lime to be used for Agricultural purposes. The Secretary spoke eulogizing the Chairman and his wife for the part which they take in getting many from their district to interest themselves in the work of the Society. He also urged on the members the necessity for continued interest. Discussion arose on how to prevent worms from destroying the leaves of growing cabbages. Mr. Edwards advised spraying with liquid salt which he said he had found effective. Next meeting is to be on the 3rd July when Mr. Cradwick is expected to give an interesting lecture. The meeting closed with the singing of the National Anthem.

W. T. EDWARDS, Secretary.

Ulster Spring (Trelawny).—The annual meeting came off on the 6th June, 1913. Present: T. F. Forbes, Esq. V.P., in the chair, Messrs. E. Arnett, Agricultural Instructor, and 13 members. The minutes of the last annual meeting were read and confirmed. The Secretary presented his fourth Annual Report which was adopted. The financial statement showed a balance of £3 16s. 5½d. to the credit of the Society. The Loan Bank, an offshoot of the Society, now

has a membership of 161 with 150 shares. Officers for the ensuing year: President, Rev. E. G. Douglas; 1st Vice-president, T. F. Forbes, Esq, re-elected; 2nd Vice-president, J. G. Pile, Esq re-elected; Secretary, G. W. Miller, Esq. re-elected; Asst. Secretary, A. A. Allison, Esq. re-elected; Treasurer, J. T. Kelwig, J.P. re-elected. Managing Committee: The above officers, and Rev. C. C. Neilson, Messrs. A. B South, E. A Taylor. J. T. Morrison, D. J. Scott, J. E. Neita, H. T. Darren, C. A. Neita. The Secretaries and Treasurer were thanked for their efforts on behalf of the Society. Revision of Rules: The monthly meeting was fixed for the first Wednesday evening of each month and Mr. Arnett promised to be present at half the monthly meetings. The Secretary was instructed to get 100 copies of the Rules printed and a small committee was appointed to shape them for the printer. It was decided to have a roll call at each meeting and, to have the members in constant remembrance of their obligations, the Treasurer was instructed to present quarterly instead of Annual cash statements. Mr. Arnett spoke on the Prize Holding scheme and stated that the judging will take place in February 1914. For the forth-coming half yearly meeting of the Parent Society the following resolution was unanimously carried: "That the system of dealing with the prædial thief is neither satisfactory nor preventive of crime and that the Government take steps to deal with this growing evil." Moved by Mr. Forbes seconded by Mr. D. J. Scott. The meeting adjourned.—G. D. MILLER, Secretary.

Gibraltar (St. Ann).—The yearly meeting was held on the 6th June 1913. After the reading and confirmation of the minutes of the last meeting the President delivered his retiring address: He reviewed the past year's work which showed progress. The Treasurer submitted his accounts which showed a balance of £1 9s. 0½d. The President then vacated the chair, and the appointment of officers for the ensuing year took place. It was moved by Mr. J. B. Morrison, and seconded by Mr. Joshua Campbell, that Mr. R. S. Barnett be re-elected President. He then took the chair, thanked the members for re-electing him, promised to do his best and urged on members to go forward. Messrs. Thos. Campbell, J. B. Morrison and Jos. Codner were re-elected Vice-president, Secretary and Treasurer respectively. Correspondence from the Parochial Board and Hon. H. H. Cousins, Director of Agriculture was read. One was also read from the Parent Society *re* half-yearly meeting in July, and the matter of the representative was deferred to the next meeting of the Branch. Ten new members were admitted, so that the membership now stands at 46. The subject of a road through the Madras district was discussed, and representation will be made to the proper authorities. It was decided to have a discussion on corn-growing at the next meeting. Journal matters were next taken up, and the meeting terminated with the National Anthem.

J. B. MORRISON, Secretary.

Mt. Regale (St. Mary).—The monthly meeting was held on the 6th June, 1913. Vice-Chairman Mr. C. A. Robinson presided over a fair turn out of members. Before reading the minutes the Secretary read a telegram from Mr. Cradwick stating that he was away from home and could not attend. Arising out of the minutes Mr. Chas. Clarke asked whether the Secretary had applied for rat poison; also whether the Treasurer had sent a report. To both questions the answer was in the affirmative. Letter was read from the Parochial Board acknowledging the petition but which could not receive the attention asked for. A circular letter was read inviting the Branch to send a delegate to the half-yearly meeting in July. The Secretary was elected to go. A report of the working of the Penny Bank was held showing the deposits to be £20 13s. 8s. Amount lodged in the Bank of Nova Scotia £10; amount withdrawn £5 9s. 7d. and balance in hand of Manager. All were pleasantly surprised at the result. Mr. Chas. Clarke seconded the motion of Mr. Thomas Coombs to have the date of meeting less changeable as altered dates sometimes upset the arrangements of members and it was decided that the meeting be held on the 2nd Friday in the month. A short discussion took place on the growth of tobacco. Though the soil is such as would produce good results, no effort is put forth to try and obtain them from the feeling that it is too troublesome Some have, however, decided to give it a trial and it is hoped that it will be a success.

NOTE—Everything is looking well and with the continuation of the season we are passing through a bright harvest is expected. The much dreaded prædial thief is a big danger in the way.—B. Thos. ATKINSON, Secretary.

Mocho & Brixton Hill, (Clarendon).—A very enthusiastic meeting was held in the Brixton Hill Schoolroom on Friday 6th June, 1913. Present J. Aug. Rhoden, Esq., President in the Chair; Rev. C. H. Baker; the two Vice-Presidents H. H. Eastwood and I. Rattigan, Esqrs.; the Instructor for the parish and sixteen other members including the Secretary, besides a number of visitors. The meeting was called to order, and opened with prayer. Minutes of last meeting were read and confirmed. There being a goodly number of visitors the Instructor thought it advisable to advise and encourage them to join especially those who are members of the "Loan Bank." The Rev. Baker followed in the same strain and strengthened the remarks of the Instructor after which four members of the Bank gave in their names and were duly admitted as members. These are Messrs. George Gale, William Temple, Walter Temple and Henry Morris. Arising out of last minutes, the question of Authorized Persons came up again. It was thought advisable to give them still another chance to attend at next meeting, and if they do not appear, then they must be struck off the list. A letter from the Parent Society was read by the Secretary asking this branch to send a representative to attend the General Half-yearly Meeting of the Parent Society which will come off July 17th. It was agreed that the Rev. C. H. Baker be sent up. Proposed I. Rattigan, seconded by H. A. Barnes. A letter from Spalding Branch was also read by the President with reference to stolen articles always detained by Police at the Station, of which a resolution was passed by that Branch asking the support of this Branch as also other Branches, and the Parent Society for their further consideration, in that perishable articles be returned to the owners, only retaining such as can be kept till the day of hearing. The matter was explained by the Instructor who told the meeting that the Parent Society has it in hand, that being so, the Rev. Baker suggested that the matter be left in the hands of the Parent Society. Agreed to. *Grind Stone.*—This caused a very lengthy discussion. Mr. Rattigan objected. The Instructor said we hope to have funds every year, and that will enable us to buy a grind stone also every year. Mr. Rhoden (Pres.) spoke referring to shares that were bought some time ago, but they were never managed satisfactorily. Mr. Eastwood (Vice-Pres.) said that if the matter of the grind stone is managed properly he will support the getting of it. Mr. Rhoden moved, seconded by Mr. Rattigan not to have it. The same was put to the vote and the majority were in favour of it. Mr. Baker mentioned the trouble caused by black ants. The Instructor showed that where there are woodlands near by you have many of them, and pointed out that in other places the "Tom Raffling" Ant was doing good work in killing the black ants. He further suggested the use of hot water, that will help greatly, also Paranaph which is commonly used, and is effective. A vote of thanks was accorded the Instructor for his timely instructions, and he would have delivered an address, but the hour grew late; he then promised to do so at next meeting which will come off the first Friday in July. There being no other business, meeting adjourned till 4th July (Friday).
S. AUG. FRANCIS, Secretary.

Richmond, (St. Mary).—The usual monthly meeting was held on Friday the 6th June, 1913. The President opened the meeting by referring to the fine showers we are having, and the very nice appearance of the cultivations, also of the prospects for the near future of the parish. The minutes of the last meeting were read and confirmed. During the reading of the minutes the Instructor drove up, accompanied by his wife. Correspondence was next read, also the election of a representative to the half-yearly meeting was discussed. The President was elected to represent this Society to which he consented. Next on the agenda was the nomination of an authorised person for the Caneheap district, as the cry of prædial larceny is so prevalent in that vicinity. Mr. T. Clarke a member of the Society consented to become an authorised person. As there was nothing more of importance on the agenda, the President called on the Instructor to address the meeting. The Instructor gave a full account of the cocoa competition held in St Mary, beginning on the 10th May and ending on the 25th. It is as follows:—Gentlemen, I am not prepared this evening to give you a lecture, I come to tell you some good news, news that I know you are all awaiting, i.e., the result of the cocoa competition. He then proceeded to read the names of the prize winners, and the first on the list was Mr. Thos. Davis of Richmond Road. Mr. Wates the Instructor for St. Thomas was the judge. From his report one really sees that the judging was very keen. Claps and cheers were given Mr. Davis. Mr. Goldson of Cromwell Land was the winner of the 2nd prize. Seven members of the Richmond Branch competed. Mr. B. Officer got a prize of 5/, H. Davis a prize of 10/, T. Officer got a medal. Members of other societies also won

some prizes. It is very pleasing to know that it was the first time that we had entered a competition, and we stood almost unparalelled. The closing remarks of the judge to the winners and non-winners of prizes were very satisfactory. He said that he was pleased with the peasant proprietors' cultivation in St. Mary, for everywhere he went, he saw signs of painstaking and intelligence among the labouring classes. When he went to Mr. Goldson's he said he thought his was the best. But going to Mr. Davis' he was taken aback. Of the 100 marks set up as the standard, Mr. Davis made 89%, Mr. Goldson made 88. What the old planters thirty years ago did not realise, we are having made clear to us to-day. Who told them about canker in the cocoa tree? Who told them about tarring? Mr. Cradwick's demonstrations on the members cultivations are doing a mighty lot of good. The Instructor then handed to the President the prize of four pounds to be given to Mr. T. Davis. Mr. H. Davis got 10/ and B. Officer 5/. It was also unanimously agreed to that a letter be sent to the Hon. R. P. Simmonds, M.L.C., thanking him for the twenty pounds given as a prize to the small cocoa proprietors in St. Mary. It was also intimated, in a few days hence a function will be held in the Richmond Court House; when there will be present several ladies and gentlemen and also members of the Agricultural Societies. A visit will be paid to some of the near by cultivations. Owing to the constant cry of prædial larceny in the Caneheap district of St. Mary, this Society at its last meeting nominated Mr. T. Clarke, for appointment as an Authorized Person. There being no further business the meeting adjourned.—CHARLES GREGG, Secretary.

East Portland—A regular meeting was held in the Government Schoolroom, Manchioneal, on Saturday last the 7th June, 1913. There were 25 members present. The Secretary read circular from the General Secretary *re* representative to the half-yearly general meeting to be held in Kingston in July. It was decided not to send any from this Branch. A letter was read from the Secretary of the Spalding Branch *re* detention of perishable goods by the police. The resolution was not supported. Six members paid dues. Mr. Wates Agricultural Instructor for the parish gave an interesting address on the pruning of cocoa. During the course of his lecture he referred to the excellent stage this industry has reached in the parish of St. Mary and urged the members of this Branch to copy the methods employed by the men of that parish. He showed specimens of the tools to be used in pruning as well as a machine for spraying the leaves. This he explained is also useful in spraying cattle. At the close of his address Mr. McBean moved a vote of thanks to Mr. Wates for his interesting lecture. Mr. Wallace in seconding this dealt with the point in the lecture where the members were urged to copy the men of the neighbouring parish. He said it is always good to copy good things and the members were not to take offence, but were to take the remarks in the spirit he believed they were given and copy the methods of the St. Mary cultivators. The vote passed and Mr. Wates in replying referred to the remarks of the seconder of the motion and urged on the members not to put all their eggs in the "banana basket." At the next meeting Mr. C. M. Clarke will lead in a discussion on the cultivations of Small Settlers. The Instructor left copies of the regulations for the next prize holdings competition with the Secretary for distribution. Mr. J. I. Allwood gave notice to bring forward a motion *re* Crown Lands at the next meeting. All members complained that they had got no Journals since April. The Secretary promised to find out the reason for this from the General Secretary. The meeting then adjourned.—ERNEST R. WALLACE, Secretary.

Main Ridge (Clarendon).—The monthly meeting was held to-day June 6th, 1913. Meeting begun with prayer by Mr. Cumming. Minutes of last meeting were read and confirmed. President, Vice-president, Treasurer, Secretary and twelve members. The retiring President delivered a very able and well got up address. This had the approval of the House. One verse of the hymn "O God our help in ages past," was sung. The retiring President was accorded a hearty vote of thanks. The Treasurer's Report was submitted and adopted. Next came election of officers, the Rev. A. W. Cunningham President, Messrs. Cummings and Gouldbourne, Vice-presidents. Mr. Anglin Secretary, Mr. Dawkins Assistant secretary, and Mr. Bennett Treasurer. Authorized persons, were called on for report of arrests made, and the effects of their presence in the districts. Mr. W. Piper reported that his presence was a check on prædial larceny in his district. The President gave a lecture on Hygiene, which was appreciated by the members. Mr. Dawkins being absent, through press of

school work, his lecture on "How Plants feed" was laid over for the next meeting. Date of next meeting July 11. Place Mt. Zion. Singing of the Doxology brought the meeting to a close.—H. A. ANGLIN, Secretary.

Upper St. John, (St. Catherine).—The monthly meeting was held on the 10th of June, 1913. There were present—Rev. L. M. Beverley, Chairman, Mr. Mossman the Instructor, Mr. Barclay the general Secretary, twenty-three members, twenty-four visitors and the Secretary. The meeting was opened in the usual way. The minutes of the last meeting were read and confirmed and correspondence from the Mother Society read. Mr. J. M. Whitely was nominated and elected to represent this branch at the half-yearly meeting to be held at the office in Kingston on the 17th of July. Mr. Mossman introduced Mr. Barclay to the meeting. Mr. Barclay in the course of a very interesting address explained fully the work of the Agricultural Society generally; the relation of Branch Societies to the Parent Society and the general growth of the Society in the formation of new branches, increase in membership and increase in number of Instructors. He went on to explain the working of the Head Office, and the printing of JOURNALS giving reasons why the supply to branches is at present irregular. He dealt in succession with Agricultural Shows, Prize Holding Competition, Loan Banks, Authorised Persons, Branch Societies and the amount of good work they have done and can do, showing how every effort made by the Agricultural Society tends to better the conditions of individuals and the island as a whole. He strongly urged the members to be careful in handling fruit trees and produce as well as to endeavour to make their branch a mutual improvement Society in Agriculture. The address as a whole was rousing, inspiring and educative. The Chairman thanked Mr. Barclay on behalf of the meeting for his visit and for the valuable address he had given. He also spoke in very high terms of praise of the useful work the Instructor is doing and of the great improvements he has succeeded in bringing about among the cultivations of the peasantry. Mr. J. H. Harrison, Mr. Alfred Brown and Mr. J. M. Whitely also spoke in support of the deserving tribute paid to Mr. Mossman. Mr. Nelson read a paper on, "How to live comfortably on a five-acre lot." The following is the outline--half acre for house and out buildings, &c.; one acre for bananas; one acre for yams; one acre for coffee and cocoa; half acre for canes; quarter of an acre in guinea grass; quarter of an acre in ruinate and half an acre in woodland. This paper created a lively debate and brought out many suggestions from experienced Agriculturists. Mr, James Feason an Authorized Person was called upon to answer a charge laid against him at the previous meeting, but Mr. D. Brown the complainant failed to prove his point. Mr. Allison applied for the post of Authorized Person in succession to G. A. Scully. This will be considered at next meeting. The meeting adjourned.—J. H. BLACKWOOD, Secretary.

Tryall Hill, (St. Mary).—On Tuesday 10th June, 1913 the regular monthly meeting was held. Chairman called the meeting to order at 4.15 p.m. There were present at the Roll Call ten members, but before the business of the meeting was completed other members put in their appearance. The minutes of the last meeting being read and confirmed, there being no new members proposed matters arising out of the minutes were dealt with. The Annotto River Committee was again called upon, but failed to give any report. The Committee decided to come prepared at the next meeting with the necessary information. The Pencar Bridges were next dealt with, but before dealing with this question the correspondence was asked for as most of the correspondence dealt with the same question. Moved by the Secretary that owing to the expected visit of the Hon. R. P. Simmonds to these parts that the Baxter's Mt. & Tryall Hill Branch Societies meet at Fort George at any convenient centre to enable the inhabitants of the surrounding districts to attend the meeting on the 8th July, 1913, and that notices be sent to the different districts. The motion *re* enlarging the number on Motor Cars was not fully discussed as Mr. Richd. Grant the mover was not present. Signatures to the Petition from Baxter's Mt. and other districts came to hand during the meeting. Secretary was advised to send same to the Hon. Member for St. Mary. Matters referring to the half-yearly meeting were left over for next meeting. The Chairman supported by the Secretary called attention to the lack of interest on the part of many members. The work the Agricultural Societies are doing in this Island generally was pointed out and the members were called upon to be alive to their own interest. Moved by the Chairman that a copy of the Petition be forwarded to the Parent Society asking its sup-

port in the Bridge Question, seconded by Mr. J. W. Hind, unanimously agreed to. Treasurers Report showed a balance of over £2 18s. Motion for next meeting :—Horse stealing by Mr. Watt, address by Instructor. Copy of Sub-Officers Guide to be presented at next meeting. Meeting adjourned for 2nd Tuesday in July. National Anthem.—A. A. CONSTABLE, Secretary.

Windsor Castle (St. Mary).—The usual monthly meeting was held in the Carron Hall schoolroom on the 11th of June, at 5 p.m., when the chair was taken by the President, the Rev. James Macnee, who opened the meeting with prayer. After the minutes of the previous meeting had been read and confirmed, two new members, viz., Messss. H. W. R. Scott, and Henry Johnson, were elected. The President in the course of his remarks said that the petition passed at the May meeting had been forwarded to Mr. Simmonds for presentation to the Legislative Council, and a copy of the same had been sent to His Excellency, the Governor; besides this, Sir John Pringle had promised to speak on their behalf: the President spoke of the movements of the Railway Committee, and expressed regret that its Secretary had not communicated with the Secretary of this branch, with respect to the proposed meeting to be held at Gayle at some time in the near future. Mr. Cradwick mentioned some of the changes effected by the railway in the Richmond district. A committee was chosen for the purpose of telling people in the district why they should attend the mass meeting to be held at Gayle. Mr. Cradwick then read out the list of prize winners in the recent cocoa cultivation competition, in which, one of our members, Mr. I Tulloch, secured the third prize. A cheque for £2 was handed to the successful competitor, who had scored the highest marks for pruning. Mr. Cradwick then gave a demonstration of the use of a milk separator; in this he was quite successful as a fair percentage of cream was obtained from the milk provided by Mrs. Macnee and Mrs. Crooks. Then, the Instructor, assisted by Miss Macnee, churned the cream, making it into butter, at the same time explaining the whole process. Mr. Cradwick then read the report of Mr. Wates, the judge in the recent cocoa cultivation competition, and a vote of thanks to the Instructor was carried unanimously. The number of members present was thirty-one. The next meeting was arranged to be held at Carron Hall on Wednesday, the 9th of July at 5 p.m. As the hour was late it was agreed to adjourn, and the meeting was closed with the benediction.

ALEX. T. ALLAN, Secretary.

Swift River (Portland).—The regular monthly meeting was held on Wednesday 11th June at 7 p m. instead of the usual hour 4 p.m. It was thought necessary to change the hour from four to six o'clock as all the members are a working class of people some have to work far away and cannot attend at 4 p.m. The attendance was not as large as usual. The President took the chair and called the meeting to order. The minutes of the previous meeting were read and confirmed. Correspondents read *re* Half yearly general meeting and the Instructor's removal. Points of importance if any for the general half yearly meeting will be discussed at next meeting. Mr. A P. Hanson could not be present, but will be with us at the next meeting to bid us farewell. The President then encouraged the members in cultivating to plant many things, not to confine themselves to one crop but to plant a variety of things, such as cocoa, coffee and cocoanuts and other crops instead of bananas alone. This year especially, bananas are plentiful, but the buying is not encouraging. Other crops would be more lasting and not easily blown down by wind, and even when blown down and not wholly destroyed will yield some crop, but the bananas have to be planted year after year. We should make ourselves more independent. Next meeting fixed for 9th July when three members are asked to write a paper on :—"How could the small man make himself independent." Discussion on Roads for next meeting. The National Anthem was sung, which brought the meeting to a close.

S. N. PARKER, Secretary.

St. John's, (St. Catherine).—The Annual general meeting was held at Kitson Town on the 12th Jnne, 1913. Among those present were Messrs. E. J. Hendriks (in the chair) H. L. Mossman (Instructor) S. A. Banton (Secretary) D. V. Anderson, C. Grant and J. Gonzales. The minutes of the last meeting were read and on the motion of Mr. T. J. Richards seconded by the Instructor were confirmed. A letter and resolution from the Spaldings Branch relative to the detaining by the police of perishable articles in cases of Prædial Larceny which necessitates loss on the part of owners was read. This brought forward a good deal of discussion and suggestions. The following was ultimately adopted ;—

Resolved That this Society although in sympathy with the Spaldings Branch cannot adopt the resolution as it stands; because in cases in which Prædial Larceny is alleged, experience proves that the prosecutors are not always the owners and in such cases the wrong persons might obtain the articles. That this Society respectfully suggests that the Parent Society approach the Government in order that the Law might be so amended that in cases of alleged Prædial Larceny, the police be authorised to dispose of nearly all the perishable articles; only leaving what is absolutely necessary to ensure a conviction; and that the proceeds of the sales of such articles be kept in custody of the police until after the decision of the Court when the right owner will receive the said proceeds of such sales. The Instructor spoke lengthily and interestingly on the Prize Holdings Competition which had been abandoned last year owing to the drought. This he said will be held during this year in September. He urged intending competitors to start at once and do their best. All entries can be made as early as possible He mentioned that prizes of £1 will be given for the best field of coffee and cocoa cultivation respectively regardless of size as well as ten shillings to the housekeeper having the best kept house He impressed upon all the necessity for proper methods of cultivation. The Law on Authorized Persons was fully explained. A vote of thanks was moved by Mr. Hendriks and seconded by Mr. Banton, The following officers were re-elected for the current year "en bloc" Messrs. D. V. Anderson (President) E. Wilson (Vice-President) S. A. Banton (Secretary and Treasurer). On the motion of Mr. Banton, Mr. Lewis Grant was elected Senior Vice-President. The National Anthem brought the 12th annual meeting to a close. The meeting adjourned until the 2nd Thursday in July at 7 p m. Report of Secretary was read and adopted.—S. A. BANTON, Secretary.

May Pen (Clarendon).—The monthly meeting was held at May Pen on Thursday the 12th June, 1913. There was a large attendance of planters and others interested in the welfare of the Society. The minutes of last meeting were read and confirmed. The financial statement was presented and adopted. The Secretary read several letters relative to affiliation and other matters. A letter from the Rev. N. A. Bacquie offering the use of the School Room for the meetings of the Society was read. On the motion of Mr. T. B. Thompson the Society tendered a vote of thanks for the concession, to the Rev. gentleman. The chief business of the evening was the establishment of a Loan Bank, It was moved by Mr. A. E. McLean and seconded by Mr. T. B. Thompson, that a Loan Bank be started under the auspices of the May Pen Agricultural Society. It was unanimously agreed to. The Secretary read the circular from the Agricultural Loan Societies Board after which Mr. T. B. Thompson explained the object and aims of the Loan Bank. About 25 members then applied for shares. The rules supplied by the Agricultural Loan Societies Board were duly filled in and adopted. Mr. C. L. A. Rennalls was unanimously appointed Secretary to the Loan Bank. The Secretary was instructed to secure the registration of the Loan Bank as early as possible.—C. L. A. RENNALLS, Secretary.

Glengoffe (St. Catherine).—The usual monthly meeting was held in the Grateful Hill schoolroom on the 12th June, 1913. There was an unusually large attendance. Among those present were Alex. Carey, Esq. presiding, Rev. T. M. Sherlock, and Mr. Briscoe, Instructor. Correspondence was read from (a) The Secretary of the Parent Society intimating the proposed transfer of Mr. Briscoe to the western end and of Mr. Hanson. late schoolmaster here, to fill his place. (b) From the Secretary of the Parent Society asking for a list of members and affiliation fee. The Secretary was instructed to forward these (c) From the late Secretary informing the meeting to whom he had loaned the shears. The Secretary informed the meeting that since receiving the letter he had seen the gentleman referred to who had now returned these shears, so these shears and two lately bought were available for use by members. The question of annual fee came up and several members paid in (several had paid in already) and a few promised to do so at an early date. Mr. Briscoe then addressed the meeting on the "Prize Holding Scheme" and was heartily thanked for his interesting lecture. The question of roads came up. The President promised to use his personal influence with the Parochial authorities, and if that failed then the Commissioner could be approached. Mr. Coote then rose and proposed a resolution of appreciation of the services of Mr. Briscoe to the Branch for nearly 6 years, of regret at his removal and expressed the wish that the success that had followed his work here will continue to do so in his new district. The motion was seconded by Mr. Carey, and supported by Rev. Sherlock, Mr. Robt. Howell, and Segismund Reid. The president put it to the meeting and it was carried *nem. con.* Mr. Briscoe

replied suitably. The question of a Show was again discussed and a committee consisting of the President, Vice-president, Secretary, Assistant Secretary and Mr. Howell (with power to add to their number) was appointed to draft a prize list and submit it to the next regular meeting; while the Secretary was instructed to inform the General Secretary of our intention to hold a Show in March or April. The meeting adjourned to the 1st Thursday in July.—THOS. E. COOTE, Secretary.

Lower St. David's, (St. Thomas).—A meeting was held on the 14th June in the Church Schoolroom. There were present the President, Vice-President and 12 other members. The meeting begun with prayer. The minutes of previous meeting were read and confirmed. The Secretary read correspondence from the Secretary of the mother Society *re* the Show Fund and informing the members that sprouted yam (St. Vincent) heads may be had for less than 11/- per cwt. Two of the members asked that the Secretary be instructed to send for 150 lbs. The Vice-President moved the suspension of the standing order the hour being late and let matters of most importance be dealt with. Mr. E. Ambersly seconded, all agreed. The Co-operative Loan Bank to be organized was dealt with. The President enlightened the meeting by outlining the scheme under which one may be organized. He said he had a personal talk with Mr. Barclay who gave him the necessary information and advised him to buy a copy of the Loan Bank Law for 1902. A copy was shown to the meeting. The organization needs a capital of £100; £25 of which must be paid in before a grant may be had from the Government. The matter was well dealt with, Mr. T. N. Lewin then moved the organization of a Co-operative Loan Bank, Mr. T. Rennie seconded, all agreed. The shares to be not less than £2 each and interest not less than 6 per cent. Shares could be paid for in instalments. The following persons enlisted as shareholders: Messrs. E. Ambersely 2; F. Rennie 2; T. N. Lewin, D. M. McLean 2; J. M. McLarty 2; A. Bennie 2; J. G. Barrant. A meeting of shareholders was fixed for Saturday the 21st inst., at 5 p.m. Meeting adjourned until the second Saturday in July.—O. M. SKINNER, Secretary.

Frankfield (Clarendon).—The usual monthly meeting was held at the Church School Room on Friday the 13th June at 3 o'clock. Present Messrs. U. S. McKay (President), and 18 members. The minutes of the last meeting were read and confirmed. A letter was read from the Prospect Society asking for co-operation in the matter of asking the Government to reduce the license on fire arms so as to enable settlers to protect their fields from the depredations of small stock. It was agreed to support them by asking the Government to reduce the license to four shillings (4s.) A lecture was given by Rev. W. M. Parchment on Agriculture in Canada, which was highly appreciated and commented on by the members. A vote of thanks proposed and seconded by Messrs. G. W. Downie and J. Foster, respectively, was unanimously carried. There was an interesting talk on the "Entire Horses Law." The President led, showing how necessary it was to get the runts and unsound stallions weeded out, and he moved a resolution carried unanimously to ask the Government to pass a Law to that effect. There was a discussion on the "Shipment of Produce" by small settlers themselves, and the following committee was appointed to arrange some working plan to deal with the matter, viz., U. I. McKay, (Chairman), S. A. Schleifer, J. T. Foster, Rev. W. M. Parchment, R. A. E. Grant and Geo. W. Downie, 3 to form a quorum. The first local competition among members of the Branch will be held on Thursday Aug. 14th, 1913, at 10 a.m. in front of Excelsior House, Frankfield, where the exhibits will be arranged. Mr. H. Q. Levy will be asked to judge. Three (3) prizes of 2s. 6d,, 1s. 6d. and 6d. respectively will be given for the 6 best ears of seed corn, and two (2) prizes of 1s. and 6d. respectively will be given for the best bundles of Escallion with 6 Tomatoes thrown in. The next meeting will be held on Friday 11. 7. 13, when there will be a lively, discussion all being well on the prædial larceny question. Meeting terminated with the singing of the National Anthem.

GEO. W. DOWNIE, Actg. Secretary.